AMERICAN ANNALS OF THE DEAF

Official Organ

Conference of Executives of American Schools for the Deaf
Convention of American Instructors of the Deaf

Edited by

IRVING S. FUSFELD

Under the Direction of

PERCIVAL HALL, of the District of Columbia
FRANK M. DRIGGS, of Utah
MADISON J. LEE, of Kentucky
ELWOOD A. STEVENSON, of California
IGNATIUS BJORLEE, of Maryland
O. L. MCINTIRE, of Iowa
J. W. BLATTNER, of Oklahoma

Executive Committee of the Conference

MARCH
1936

VOLUME LXXXI **NUMBER 2**

VOL. LXXXI No. 2

AMERICAN ANNALS OF THE DEAF

Official Organ

Conference of Executives of American Schools for the Deaf
Convention of American Instructors of the Deaf

Edited by

IRVING S. FUSFELD

under the direction of

PERCIVAL HALL, of the District of Columbia
FRANK M. DRIGGS, of Utah
MADISON J. LEE, of Kentucky
ELWOOD A. STEVENSON, of California
IGNATIUS BJORLEE, of Maryland
O. L. MCINTIRE, of Iowa
J. W. BLATTNER, of Oklahoma

Executive Committee of the Conference

MARCH

1 9 3 6

Contents

AN ANALYSIS OF ERRORS IN WRITTEN COMPOSITION BY DEAF CHILDREN ..... *William Hertzog Thompson, Ph.D.* 95
The Problem, 95; The Methods, 95; Findings, 96.

A GUIDE TO THE LITERATURE ON THE DEAF—PARTICULARLY THE EDUCATION OF THE DEAF ..... *Tobias Brill, M.Ed.* 100
General Information and Statistical Data Issued Periodically, 101; Material of Special Interest to Teachers of the Deaf and Normal Students, 102; Research Studies, 109; Indexes, 110; Libraries, 110; Encyclopedias, 111; Newspapers and Magazines, 111; Miscellaneous, 111; Conclusion, 112.

THE PSYCHOLOGY OF LANGUAGE WITH SPECIAL REFERENCE TO THE DEAF ..... *Marné Lauritsen Groff, Ph.D.* 113
The Development of Language in the Deaf Child, 113.

HELPING OUR GRADUATES SECURE POSITIONS ..... *Wesley Lauritsen, M.A.* 126

A COMPARATIVE STUDY OF THE MOVEMENTS OF THE BREATHING MUSCLES IN SPEECH AND QUIET BREATHING OF DEAF AND NORMAL SUBJECTS—II ..... *Charles G. Rawlings, M.S.* 136
Results, 136; Discussion of the Results, 142; Summary, 149.

EXPERIMENTS IN THE ACADEMIC EDUCATION OF ADOLESCENT DEAF PUPILS—III ..... *Louise Ebeling Dean, B.A.* 151
Social Science, 151; Reading, 155; Written Language and Grammar, 160; Bibliography, 164.

CALIFORNIA'S POLICY OF EDUCATING THE DEAF ..... *Elwood A. Stevenson, M.A.* 166
The California Plan: General Policies, 166; Accepted Grading, 168; Co-operation with Educational Authorities, 169; Provision for the Hard of Hearing, 170; Training of Teachers, 171.

SCHOOL ITEMS ..... *I. S. F.* 175
Baltimore, Central New York, Evangelical Lutheran, Florida, Horace Mann, Kansas, 175; Lexington, 176; Louisiana, Mackay, Mississippi, Nan C. Kennedy (Dayton.), 177; New Jersey, New York, North Carolina, Pennsylvania, 178; Ray, St. Francis Xavier, Territorial, 179.

MISCELLANEOUS ..... *I. S. F.* 180
The Conference Meeting at Pittsburgh, 180; Certification, 180; The Drever and Collins Tests, 181; Educational Abstracts, 183; A Summer Session for Deaf Teachers, 184; Central Institute Summer Session, 184; Summer Session at Ypsilanti, Mich., 185; Report of the Treasurer of the Convention, 185; Retirement of Mr. Nandurbarkar, 185;

The AMERICAN ANNALS OF THE DEAF is published bi-monthly during the school year, appearing in the months of January, March, May, September, and November. The subscription is $2.00 a year, payable in advance; January number, one dollar a copy; single numbers otherwise, 50 cents each. The subscription for foreign countries is $2.20 a year.
Publication office: 450 Ahnaip Street, Menasha, Wisconsin. Editorial office: Kendall Green, Washington, D.C. Entered as second-class matter at the Postoffice at Menasha, Wisconsin. Acceptance for mailing at the special rate of postage provided for in the Act of February 28, 1925, authorized June 25, 1932. Subscriptions made payable to the AMERICAN ANNALS OF THE DEAF may be sent to 450 Ahnaip Street, Menasha, Wisconsin, or to the Editor, Gallaudet College, Kendall Green, Washington, D.C.

GEORGE BANTA PUBLISHING COMPANY, MENASHA, WIS.

VOL. LXXXI MARCH, 1936 No. 2

AMERICAN ANNALS OF THE DEAF

An Analysis of Errors in Written Composition By Deaf Children

By WILLIAM HERTZOG THOMPSON, PH.D.
The Municipal University of Omaha, Omaha, Nebraska

AN ANALYSIS of 16,000 specimens of written composition from 800 deaf children, attending ten schools for the deaf, was made. This work was made possible by the cooperation of the following administrators:

D. T. Cloud, Managing Officer, Illinois School for the Deaf; O. L. McIntire, Superintendent, Iowa School for the Deaf; H. J. Menzemer, Superintendent, Kansas School for the Deaf; A. J. Caldwell, Superintendent, Louisiana School for the Deaf; L. M. Elstad, Superintendent, Minnesota School for the Deaf; T. L. Ingle, Superintendent, Missouri School for the Deaf; F. W. Booth, Superintendent, Nebraska School for the Deaf; A. E. Pope, Superintendent, New Jersey School for the Deaf; E. S. Tillinghast, Superintendent, South Dakota School for the Deaf; and Mrs. H. T. Poore, Superintendent, Tennessee School for the Deaf.

Much of the labor involved was done through the medium of the Federal Emergency Relief Administration.

THE PROBLEM

An attempt was made to discover the character of the errors in written composition by deaf children. Much of what was done was suggested by a similar analysis made of the compositions of public school children by Dr. John T. Seaton.[1]

THE METHODS

Tabulation of the following errors was made:

[1] An unpublished thesis in the library at Ohio State University, Columbus, Ohio.

Syntax and Case

Pronouns
1. Wrong case
2. Wrong number
3. Vague reference
4. Wrong gender

Nouns
1. Wrong number
2. Wrong meaning

Adverbs (adj)
1. Used for each other
2. Wrong modification
3. Excess or unnecessary
4. Wrong article
5. Double negative
6. Omission of article
7. Excess article

Verbs
1. Wrong tense
2. Wrong case
3. Wrong number
4. Wrong voice
5. Split infinitive
6. Wrong use of gerund, participle
7. Wrong form

Conjunctions
1. Used with wrong type of clause

Prepositions
1. Wrong use

Possessives

Slang

Abbreviations

Clauses

Sentences
1. Run-on
2. Incomplete
3. Improper
4. Repetition
5. Choppy
6. Incoherent

Clauses
1. Dangling or mixed reference
2. Disconnected

Phrases
1. Not clear reference
2. Lack of connection with rest of sentence

Lack of Proper Word Order

Words and Vocabulary

1. Poor choice
2. Needless repetition
3. Incoherence
4. Excess words
5. Wrong use
6. Wrong word
7. Omission of word
8. Incorrect degree
9. Word order

Punctuation

1. Wrong use of period or question mark
2. Wrong use of comma
3. Wrong use of semicolon
4. Wrong use of colon
5. Lack of period or question mark
6. Lack of comma
7. Lack of semicolon
8. Lack of colon
9. Quotation marks
10. Apostrophes
11. Capitalization
12. Paragraphing

Twenty papers from each pupil were analyzed. The ability of each pupil was rated by his teacher, and a statement of the age at which deafness occurred was included for each pupil. This enables a statement to be made relative to the occurrence of error in reference to the factors of amount of hearing, age at which hearing was lost, and the scholastic ability. The table at the close of this paper will show these relationships.

Findings

Children who lost their hearing after the age of five made fewer errors than those in the other groups.

Pupils who were rated fair in ability usually made more errors than either the good or poor students. It is apparent that the good students had a better command of language and made fewer errors; the poor students wrote compositions of much simpler nature.

The differences between the compositions of those who were of the congenitally deaf and those who lost their hearing before five years of age is not so great as might be expected. In general, the differences do not appear significant between the two groups. However, it should be pointed out that the children who have had hearing and who lost it at five or before have a better command of words, although their handling of the structural aspect of language is not superior.

In the mechanical features of composition, it is interesting to note that the partially deaf usually make more errors than the totally deaf. This suggests that the totally deaf rely more upon pure mechanics and that the partially deaf are "corrupted" by hearing speech. This same difference is more striking in the use of words than in the structural features of composition.

The vast majority of the errors in written composition fall into relatively few classifications. This indicates that the emphasis on teaching written language should be shifted to that part of English composition which will help the child to overcome his mistakes.

The omission of necessary words, the use of wrong words, and the addition of excessive words are outstanding characteristics of the errors by those children who have lost their hearing before five or who are congenitally deaf. Scholastic ability in these groups apparently is not a factor in these difficulties.

The findings of this experiment indicate that the type of error made by deaf children parallels the kinds of errors made by school children as found by Filliers.[2] This suggests that the teaching of English composition is in its larger aspects much the same problem whether the child is deaf or hearing.

---

[2] Filliers, H. D., *Educational Review*, Vol. 54, December, 1917.

The errors of those who have lost their hearing after the age of five more closely resemble the errors of the public school children than do the children who have lost their hearing below the age of five.

On the basis of these results, it would appear more necessary for the teacher to spend time and effort on the right use of words rather than on the treatment of structural grammar, as the written expression of deaf children is more likely to be mechanically correct than it is to have the words correctly used.

Average Number of Errors Per 1,000 Words Made by Deaf Children

Status of Deafness and Quality of Work

	Congenital								Deaf before five								Deaf after five					
	Total				Partial				Total				Partial				Total			Partial		
	good	fair	poor	ave.	good	fair	poor	ave.	good	fair	poor	ave.	good	fair	poor	ave.	good	fair	ave.	good	fair	ave.
Syntax and Case																						
Wrong no. of nouns	3	3	3	3	3	3	5	4	3	3	2	3	3	4	2	3	2	4	3	2	6	4
Wrong tense of verb	6	6	1	4	6	10	6	7	6	4	19	10	7	5	5	6	3	5	4	4	5	5
Omission of article	4	3	1	3	4	4	6	5	3	3	4	3	3	2	3	3	1	10	6	1	2	2
Wrong form of verb	1	3	4	3	3	6	0	3	2	0	5	2	0	10	5	5	0	0	0	1	2	2
Wrong article	2	2	0	1	1	2	5	3	1	2	1	1	2	1	0	1	0	4	2	1	1	1
Wrong no. pronoun	0	0	4	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	9	8	2	6	12	11	13	12	7	10	0	6	10	11	3	8	4	6	5	7	13	10
Total	25	25	15	21	30	37	36	35	22	22	32	25	25	33	18	26	10	29	20	16	29	24
Clauses																						
Incoherent sentence	5	9	1	5	5	6	11	7	6	5	3	5	3	9	2	5	3	7	5	2	0	1
Improper word order	1	3	3	2	2	2	1	2	3	2	3	3	1	2	0	1	0	0	0	1	0	1
Incomplete sentence	1	2	1	1	1	1	8	3	1	1	1	1	1	3	1	2	2	6	4	0	2	1
Run-on sentence	2	1	0	1	1	0	2	1	1	1	0	1	1	2	6	3	2	2	2	1	0	1
Choppy sentence	1	1	1	1	3	0	2	2	2	1	1	1	0	1	7	3	1	1	1	1	3	2
Miscellaneous	4	7	1	4	12	8	3	8	5	4	2	4	10	7	8	8	7	5	6	6	2	4
Total	14	23	7	14	24	17	27	23	18	14	10	15	16	24	24	22	15	21	18	11	7	10
Words																						
Excess	17	12	9	13	11	11	19	14	9	9	10	9	9	15	4	9	9	12	11	6	8	7
Wrong	13	15	10	13	17	14	17	16	10	10	8	9	13	19	13	15	12	21	17	13	18	16
Omitted	15	15	19	16	22	24	28	25	8	14	18	13	17	22	11	17	8	12	10	7	14	11
Poor choice	1	2	4	2	1	2	4	2	3	2	2	2	1	3	0	1	1	0	1	0	0	0
Word order	2	5	0	2	3	3	3	3	3	2	0	2	1	4	4	3	3	3	3	3	3	3
Miscellaneous	0	9	3	4	3	8	17	9	9	5	1	5	3	1	29	11	2	1	2	0	9	5
Total	48	58	45	50	57	62	88	69	42	42	39	40	44	64	61	56	35	49	44	29	52	42
Punctuation																						
Lack of comma	12	10	1	8	5	7	12	8	6	8	6	7	17	13	3	11	15	8	12	7	4	6
Lack of period or ?	1	5	6	4	1	4	7	4	2	3	2	2	2	4	0	2	1	2	2	1	6	4
Capitalisation	2	5	1	3	2	6	11	6	2	2	1	2	1	3	6	3	4	2	3	3	5	4
Miscellaneous	3	7	3	4	4	2	3	3	5	3	4	4	4	5	1	3	7	2	5	0	4	2
Total	18	27	11	19	12	19	33	21	15	16	13	15	24	25	10	19	27	14	22	11	19	16

A Guide to the Literature on the Deaf—Particularly the Education of the Deaf

By TOBIAS BRILL, M.ED.
Principal in the New Jersey School, West Trenton, New Jersey

THE HANDICAPS of deafness are of such a serious nature that the education of the deaf presents a very peculiar problem and, therefore, forms a special field. From an educational point of view, the lack of hearing in itself is not the major difficulty, but rather the resultant lack of speech and comprehension of the mother tongue. Until a verbal means of communication, spoken or written, has been established, the education of the deaf child differs greatly from that of the ordinary hearing child.

With the exception of a few isolated cases, the education of the deaf in Europe was not undertaken until the last third of the 18th century, and in this country the first school was not established until 1817. The literature about the deaf is rather meagre. With the exception of a very few magazines sponsored by associations interested in the education of the deaf, there is no organization whose primary function it is to collect data, organize them, conduct systematic research and publish results. The field seems to be too limited to attract general attention, and those who are engaged immediately in the education of the deaf are too busy to do much beyond the ordinary routine work.

Among the difficulties confronting the student or research worker who has had an interest aroused in one phase or another of this special field of education are the lack of organization of the data available, the uncertainty concerning such information which generally prevails, and the confusion as to where to obtain that information. As such a condition must act as a deterrent to the initiation of organized study of the subject of the deaf and their education, it is here proposed to bring together, even if only in outline form, those references to source material and bibliography that will aid in the study of the problem.

For the purpose of classification we might examine the

literature from the point of view of interest to various groups, such as information of interest to the general public; of value to parents of deaf children; to the medical profession; to students, especially research students in the psychological field; to teachers, particularly teachers of the deaf; to government authorities, etc. Since there would be too much overlapping of material, we shall try to organize the material available into groups differentiated by their sources of publication, and subdivide them somewhat according to the above suggestions.

I. General Information and Statistical Data Issued Periodically

1. American Annals of the Deaf, published at Kendall Green, Washington, D.C.

Each January number of the Annals contains a complete tabulation of all the schools for the deaf in the United States and Canada, both residential and day schools, giving population, methods used, number of teachers, average size of classes, trades taught, value of plant, cost of maintenance, and a full roster of all the teachers of the deaf. The Annals is not on file in the ordinary library, but a copy may be obtained from the state school for the deaf, or by writing directly to the publication office.

2. *Volta Review,* 1537 35th St. N.W., Washington, D.C.

Each December number of the *Volta Review* contains a list of deaf students who have pursued or are pursuing higher education in colleges and schools for the hearing, giving the degree of their deafness, the school for the deaf they attended and the number of years they were there, the course they are taking, and to what degree they rely on speech and lip-reading as a means of communication. The *Volta Review* is on file in many city libraries and can also be obtained from the state school for the deaf. It is indexed in the Educational Index.

3. Annual Report of the State Board of Social Welfare of the State of New York, Albany.

This gives facts, mainly statistical, about the schools for the deaf in New York.

4. Annual and Biennial Reports of the various State Schools for the Deaf.

These give not only statistical data, but frequently also general information on the problems of the deaf. Many schools also publish catalogues and pamphlets of information of general interest, particularly for parents of deaf children and to social workers, which may be obtained by writing to the school superintendents.

5. Biennial Survey of the Deaf by the Federal Bureau of Education at Washington, D.C.

This gives the population in schools for the deaf, methods used, and other statistical data.

6. Decennial Census of the Deaf by the Census Bureau, Washington, D.C.

This provides detailed information on matters of a census nature, including classification of types of deafness, causes and age of onset of deafness, nativity, marital and occupational status, years of schooling, means of communication and comparisons with the general population. All of this information is derived from an analysis of the answers obtained from a special questionnaire for the deaf in connection with the usual decennial census of the entire population of the United States.

7. Reports of Labor Bureaus in several States.

The writer knows of such reports in Minnesota and North Carolina, but anybody interested in any other State may find data about the employment situation of the deaf by writing to the Labor Bureau.

8. The *Frat*, a leaflet magazine published by the National Fraternal Society of the Deaf, 201 N. Wells Street, Chicago, Ill.

This magazine reports on the social and economic conditions of the deaf. Obtainable from the office of publication.

II. Material of Special Interest to Teachers of the Deaf and Normal Students

1. Historical.

(a) Arnold, Thomas, "Education of Deaf-Mutes," two

vols. London, Eng., 1888-91.

———, Revised edition by A. Farrar, 1901 and 1923.

For English speaking countries, this book gives the best historical sketch. On file in some libraries, and can be borrowed from any state school for the deaf.

(b) Best, Harry, "The Deaf," 1914, Crowell Co., N.Y. On file in most libraries.

(c) Bell, Alexander Graham, "Growth of the Oral Method in America," 1917, Volta Bureau, Washington, D.C.

(d) Fay, Edward Allen, "Histories of American Schools for the Deaf," 1817-1893, three vols., Volta Bureau.

(e) Jones, J. W., "One Hundred Years of History in the Education of the Deaf in America," 1929, Ohio School for the Deaf, Columbus, Ohio.

(f) The AMERICAN ANNALS OF THE DEAF, Kendall Green, Washington, D.C., is also valuable for historical data.

2. General Problems.

(a) Best, Harry, "The Deaf," 1914, N.Y.

(b) Bell, A. G., "Fallacies Concerning the Deaf," 1884, Washington, D.C.

———, "Graphical Studies of Marriages of the Deaf," 1917, Washington, D.C.

———, "Memoir upon the Formation of a Deaf Variety of the Human Race," 1884, Washington, D.C.

(c) Day, H. E., Fusfeld, I. S., and Pintner, R., "A Survey of American Schools for the Deaf," 1928, National Research Council, Washington, D.C.

(d) Fay, E. A., "Marriages of the Deaf in America," 1898, Volta Bureau, Washington, D.C.

(e) Goldstein, Max A., "Problems of the Deaf," 1933, the Laryngoscope Press, St. Louis, Mo.

(f) Johnson, R. O., "Standardization, Efficiency, Heredity," 1920, Indianapolis, Ind.

(g) Report of the White House Conference on the Education of Handicapped Children, 1931, The Century Co.

(h) The AMERICAN ANNALS OF THE DEAF, the *Volta Review,* and newspapers published by the deaf, school papers and magazines published by the various schools all contain articles on general problems of the deaf.

3. Methods.

There are several methods of educating the deaf. The term "method" is really a misnomer, since it simply refers to the method of communicating with the deaf. For general purposes they may be divided into three classes:

The *oral* method, which uses speech and lip-reading, supplemented by writing, and excludes all manual means of communication.

The *combined* or *manual* method, which, while using speech and lip-reading, also permits the use of finger spelling and signs (gestures).

The *auricular* method which utilizes the residual hearing of those partially deaf.

Standard definitions of methods of instruction in American schools for the deaf, by the late Dr. Edward Allen Fay, appear each year in the January number of the AMERICAN ANNALS OF THE DEAF.

There is considerable rivalry among the adherents of the various methods, each group making special claims for the superiority of its own method. A considerable part of the professional magazines is taken up with discussions on methods.

(a) The AMERICAN ANNALS OF THE DEAF, Washington, D.C., the Organ of the Conference of Executives of American Schools for the Deaf and of the Convention of American Instructors of the Deaf, is quite catholic in its attitude towards methods, publishing articles both pro and con on any method.

(b) The *Volta Review* (and its forerunner, the *Association Review*), published by the American Association to Promote the Teaching of Speech to the Deaf, Washington, D.C., is the proponent of the Oral Method. It excludes any article the least favorable to the Manual Method. It also contains articles on the Auricular Method.

(c) *Oralism and Auralism,* published by the Laryngoscope Press, St. Louis, Mo., features mostly articles on the Auricular Method.

(d) School papers.

Considerable discussion on the relative value of the various methods may be found in the monthly papers published by most of the state schools. Since none of them is indexed and no files kept, except that each school keeps a file of its own paper, it is difficult for anybody who is not thoroughly familiar with their contents to locate any special articles, and even those who are familiar with them need an exceptionally good memory.

In one of its fall numbers each year, the AMERICAN ANNALS OF THE DEAF publishes a review or digest of the more important contributions of a professional nature which have appeared in the school papers during the previous school year.

(e) Miscellaneous.

Pamphlets by Alexander Graham Bell, obtainable from the Volta Bureau:

Growth of the Oral Method in America, 1917

Mystic Oral School, 1897

Methods of Instructing the Deaf in the United States, 1898

Question of Sign Language and the Utility of Signs in the Instruction of the Deaf, 1898

Haycock, G. Sibley, "The Education of the Deaf in America," 1923, Stoke, England.

Reference to and comparisons of methods may also be found in various surveys and research studies on the deaf, such as A Survey of American Schools for the Deaf, 1924-25 by Day, Fusfeld and Pintner, Washington, D.C., 1928; Experimental Study of the Beginning Reading of Deaf-Mutes, by H. Thompson, 1927, Teachers College, Columbia University.

4. Reports of Proceedings of Conventions and Summer Meetings of the various Associations.

(a) The Convention of American Instructors of the Deaf

holds biennial conventions. The proceedings, up to 1933, have been printed in full by the Federal Government. Copies usually are on file at the state schools.

(b) The American Association to Promote the Teaching of Speech to the Deaf holds biennial summer meetings, usually the alternate year from the Convention of American Instructors of the Deaf. The proceedings are published by the Volta Bureau, and can usually also be found at the state schools.

(c) The Conference of Executives of American Schools for the Deaf holds biennial meetings, but sometimes jointly in the summer with the Convention of American Instructors of the Deaf. The proceedings are published in the AMERICAN ANNALS OF THE DEAF.

(d) The Society of Progressive Oral Advocates holds annual summer meetings. The proceedings are published partly in the *Volta Review* and partly in *Oralism and Auralism.*

(e) International Conventions.

Within recent years, international conventions have been held, in London in 1925, and at Trenton, N.J., in 1933. The proceedings of the London meeting were published in England, and may be obtained in this country by applying at Gallaudet College, Washington, D.C., the Volta Bureau, and at some of the state schools, the New Jersey School, for instance. The proceedings of the last International Congress may be obtained from the New Jersey School, West Trenton, N.J.

5. Textbooks.

These may be classified generally under three headings: Psychology; Speech and Lip-reading; Language Teaching.

(a) Psychology—There are no special textbooks on the psychology of the deaf, but many psychology textbooks, especially those dealing with atypical children, have chapters on the deaf, as, *e.g.*, "Psychology of Exceptional Children," Norma V. Sheideman, 1931, Houghton Mifflin Co.

(b) Speech.

For Speech, all books listed in the various Indexes under Speech, Voice, Phonetics and kindred subjects, may be included, as well as physiology books containing special chapters on the organs of speech.

While somewhat old, Alexander Graham Bell's books, and his father's, Alexander Melville Bell's, books on speech are of special interest to teachers of the deaf. Most of them also study A. Melville Bell's "Visible Speech," a system of phonetic symbols based on the positions of the organs of speech when producing the various sounds. All of Bell's books and pamphlets may be obtained from the Volta Bureau; some are on file in public and college libraries.

Mr. John D. Wright, founder of the Wright Oral School, has a series of textbooks on this and related subjects—Handbook of Speech Teaching to the Deaf; The Little Deaf Child; and Handbook of Practical Auricular Training, published by the Wright Oral School, New York City.

Other works on this subject are the publications of the National College of Teachers of the Deaf, England, namely, Intelligible Speech, and The Teaching of Speech, both by Mr. G. Sibley Haycock.

The most widely used phonetic system in schools for the deaf is the so-called Northampton method, explained in "Formation and Development of Elementary English Sounds," Caroline A. Yale, 1914, Northampton, Mass., now revised and enlarged.

A recent work is that on "Voice Building," by Julia M. Connery and Irene B. Young, St. Louis, Mo.

(c) Lip-reading.

There are very few textbooks on lip-reading. For the teaching of lip-reading to congenitally deaf children or those who became deaf before they acquired speech, mainly articles in the professional magazines must be consulted. There is an article on lip-reading

in Arnold's "Education of Deaf-Mutes" (referred to under Historical Information), and also a book "Speech Reading and Speech for the Deaf" by A. J. Story, 1915, Stoke, England, obtainable from the Volta Bureau.

Bruhn, Martha Emma, "Elementary Lessons in Lip-reading," 1927, Lynn, Mass., is also used in schools for the deaf.

Lip-reading for the *Hard-of-hearing* and *Deafened* people (*i.e.* those who became deaf *after* they have acquired speech):

Bruhn, M. E., "Müller-Walle Method of Lip-reading," 1920, Lynn, Mass.

Kinzie, C. E., and R., "Lip-reading for the Deafened Adult," Volta Bureau.

"Lip-Reading Practice Material," published by the Volta Bureau.

Nitchie, E. B., "Principles and Methods of Teaching Lip-reading," 1916, Volta Bureau; also his "Lip-reading Principles and Practice," 1919, N.Y.

Nitchie, Elizabeth H., "Advanced Lessons in Lip-reading," 1923, N.Y.

Morgenstern, Louise, "Lip-reading for Class Instruction," 1916, N.Y.

Those interested more deeply in this subject should communicate with the League of Hard of Hearing, who have a chapter in most of the larger cities.

(d) Teaching of Language.

Owing to the fact that the deaf child when he enters school starts at zero from a language point of view, it has been necessary to follow a special procedure in the development of language. The ordinary primers, early readers and other textbooks in English prepared for ordinary children are not very well adapted for use in the lower grades of schools for the deaf. There have been only a few textbooks written especially for the deaf, most of them rather old, and because of the tendency to introduce ordi-

nary textbooks at as early a stage as possible, there is no likelihood of many new ones being published in the future.

The following special textbooks are available:

Buell, Edith M., "Outline of Language for Deaf Children," two books, 1929 and 1931, B. D. Benson & Sons, 11 Cliff St., New York City.

Fitzgerald, Edith, "Straight Language for the Deaf," 1929, The McClure Co. Inc., Staunton, Va.

Barry, Katherine E., "The Barry Five-Slate System," rev. 1914, Colorado School for the Deaf, Colorado Springs, Colo.

American School for the Deaf, West Hartford, Conn., A number of books on Lessons in English, Story Books, Simplified Histories, etc. (all of them rather old, although in some instances, revised).

Upham, Louise, "What People Do," 1915; "Language Drill Stories," 1916; "Question Book," 1916; "Beginner's Book," 1917; Pennsylvania School for the Deaf, Mt. Airy, Pa.

Croker, Jones and Pratt, "Language Stories and Drills," four books, 1920-28, The Vermont Printing Co., Brattleboro, Vt.

Jones, John W., "Study of English for Deaf Pupils," three books, 1918, Ohio School for the Deaf, Columbus, Ohio.

III. Research Studies

Depending upon the field in which a student is interested, whether general education, vocational education, psychology, sociology, pathology of deafness, or any other field, the studies that have been made as masters' or doctors' theses may be found in the Bibliography of Research Studies in Education, under the heading of Deaf-Mutes' Education. Several studies have been made, especially at Teachers' College, Columbia University; University of Minnesota; Ohio State University; University of Pennsylvania; and Pittsburgh.

IV. Indexes

1. Special:
   (a) The American Annals of the Deaf issues a cumulative index every ten years.
   (b) The *Volta Review* publishes an annual index in the December number. Its articles are referred to in the Educational Index.
   (c) Catalogue of the Library for Deaf Education, by Chas. W. E. Leigh, 1932, Manchester, Eng.

   This is a complete index of the books in the special library at Manchester University. Since this agency has also copies of nearly all the books on the deaf published in the United States, it may be used for American literature on the deaf.
2. General:

References to special phases of deafness and to some articles published about the deaf can be found in most of the Indexes, such as the Index Medica, Psychological Index, Educational Index, Readers' Guide to Periodical Literature, Cumulative Book Index, International Index to Periodicals, Social Science Abstracts, Public Affairs Information Service, the Catholic Periodical Index, and others. The New York Times Index often gives references on the subject of the deaf, as does also the official Index to the Times (London).

The research student will usually find in the textbooks relating to the education of the deaf either indexes to further reference material or specially notated bibliographies; sometimes these are found at the end of chapters.

V. Libraries

The general public libraries contain very little material about the deaf.

Special Libraries on the Deaf:

(a) Volta Bureau, Washington, D.C.
(b) Baker Library, Gallaudet College, Washington, D.C.
(c) Sarah Harvey Porter Library, Kendall School, Washington, D.C.

(d) Library for Deaf Education, Manchester University, England.

(e) The Deaf Library, 5 Grange Road, Ealing (Middlesex), England.

In the libraries of the state schools there is often a collection of textbooks and other material of value to the professional and research student. In some cases, these references are carefully catalogued. A notable instance is the library of the New York School for the Deaf, 99 Fort Washington Avenue, New York City.

VI. Encyclopedias

The Britannica, Americana, International and Century Encyclopedias all contain considerable information on the deaf.

The biographical "Leaders in Education" gives references to noted educators of the deaf.

VII. Newspapers and Magazines

Several weekly, bi-weekly, or monthly newspapers and magazines are published by the deaf. The best known are:

Deaf-Mutes' Journal, published at the New York School for the Deaf, New York City.

American Deaf Citizen, Versailles, Ohio.

Catholic Deaf-Mute, Brooklyn, N.Y.

For many years, *The Silent Worker,* an illustrated magazine for the deaf, was published at the New Jersey School for the Deaf.

Foreign: *La Gazette des Sourds-Muets,* Paris; *Der Deutsche Gehörlose,* Munich, and others.

There are also a few religious and missionary publications for the deaf.

VIII. Miscellaneous

In this group we might include all the books written by Helen Keller, biographies and fiction by and about the deaf. Also poetry and drama, either by deaf authors or which refer to deafness or the deaf. Information on mechanical aids

for the hard-of-hearing and Dr. J. Schuyler Long's Dictionary of the Sign Language should also be mentioned.

Conclusion

There is considerable published material on the deaf. A great deal of it is old, but still, it is of inestimable value in the study of the problem. Unfortunately, this material is rather scattered, and not easily accessible. This paper suggests the sources to which one must go to find the material. It is, of course, not a bibliography, although, here and there, information was given on detailed books. To compile a complete guide to the literature on the deaf would be a worthwhile project, but would entail an expenditure of time and money beyond the means of the ordinary individual.

The Psychology of Language With Special Reference to the Deaf

By MARNÉ LAURITSEN GROFF, PH.D.
Minneapolis, Minnesota

[FOREWORD: In a preceding article, in the ANNALS for March 1935 (pages 172-178), Dr. Groff discussed the preliminary stages in language development, particularly its relation to general mental growth. The topics considered were: Concept of the term "language"; Theories of the origin of language; Relation of language to mental development; Stages of language development in the child.—*Ed.* ANNALS.]

I. THE DEVELOPMENT OF LANGUAGE IN THE DEAF CHILD

THE DEAF CHILD is deprived of one of the most important avenues of sense impression for the development of language. How then does language development take place in children thus handicapped? Do they go through a period of "vocal habits," as Watson has termed certain infantile reactions? How do they learn to substitute language habits for bodily habits? There is great doubt as to whether anyone can answer these questions with scientific accuracy.

A number of authors have stated that deaf babies babble. But how do we know that such babies as they have observed are deaf? We have no accurate way of determining hearing or lack of hearing in babies. Delayed speech usually gives the parents or the physician the first cue to any disturbances in the auditory realm. The inability to determine deafness soon after birth also explains why we find "bumps," "falls," "clap of thunder," etc., given by parents as causes of deafness. When the parents discover that the child is deaf, they usually recall some recent or near-recent accident or illness in the child's life and assign to such an event the cause of the deafness, whereas in reality the child may have been born deaf.

Koffka[1] says, "The fact that deaf children babble shows that utterances may occur altogether without the aid of hearing. . . . Yet the ear soon begins to play an important

[1] Koffka, Kurt, "The Growth of the Mind," Harcourt, Brace & Co., (1928), p. 330.

part in this behaviour as indicated by the fact that the deaf babble less, and do not modulate their babbling like normal children.'' However, as no references are given to any experiments along this line, one is inclined to wonder if these statements are not based upon popular opinion of those associated with the deaf, rather than based upon any scientific experiments.

Dr. A. L. E. Crouter, a renowned educator of the deaf, in 1910 gave an address on ''The Development of Speech in the Deaf Child,''[2] in which he said:

> The normal child has three principal storehouses of language. In the first temporal convolution in the auditory area of the brain are stored words received through the ear; in the angular gyrus of the visual area are stored words received through the eye in reading; while in the motor area in Broca's convolution is stored every word which can be spoken. . . . The born deaf child comes to us without a single impression in any one of these centres. A war of centuries has been waged among his teachers over the question of the advisability of attempting to establish the missing function of speech. . . . How now, does the process of developing speech in the mind of the deaf child differ from the procedure in the case of the normal child? The auditory area cannot be reached and therefore no language centre can be established there, but the visual area may be made to do double duty by establishing in it not only a registry of written and printed words, but also—a faculty which the normal mind does not ordinarily possess—a registry for spoken words. Just as the blind establish a third word registry by which they read through touch, so the deaf may acquire a record of lip-read language from which the motor speech centre undoubtedly receives its strongest stimuli. To a lesser extent they store away impressions of speech received through touch, since it is upon that sense that they must rely for the modulation of vibration and force in articulation. These phenomena afford us striking examples of the wonderful power of the brain to create new functions under the constant repetition of a stimulus.

It is to be doubted whether modern psychologists would subscribe to such an extreme view of localization as presented above, especially in the light of Lashley's[3] recent findings. Nor can one accept wholly the statement that the visual area develops a new function—a registry for spoken words—which normal minds do not possess. We are all lip-readers to a certain extent in that speech is usually more easily understood if we can watch the speaker's face.

---

[2] Crouter, A. L. E., ''The Development of Speech in the Deaf Child,'' *Transactions of the American Laryngological, Rhinological, and Otological Society* (1910), Reprint, pp. 1-3.

[3] Lashley, Karl, ''Brain Mechanisms and Intelligence,'' University of Chicago Press, 1929.

Koffka[4] points out that various vocalic imitations indicate that the relation of hearing to vocal utterance must be something more than a matter of mere associative connections. Very young children imitate their own vocal utterances and also imitate words which they have never spoken spontaneously.

Another German psychologist, William Stern[5] says:

> The child can, of course, only become familiar with this mother tongue, at first so strange to his ears, by continually hearing it, and only make it his own by repeating its sounds; thus imitation is, in truth, the factor which, above all others, makes it possible to learn to speak. This is so real a fact that deaf children remain dumb as well, and if deaf-mutes later learn to speak . . . it is by watching their teacher's movements in speech and by feeling with the hand, *i.e.*, then by imitation.

But the essential difference to be noted is that while normal children acquire speech through self-imitation and imitation of those around them, their imitation is dependent upon auditory stimuli while deaf children must depend upon visual and tactual stimuli.

Until the advance of oralism deaf children were taught mainly by a system of conventional signs and finger-spelling. Vision was substituted for audition in the education of the deaf but no attention was paid to speech, the motor aspect of language. The oral method naturally emphasizes this phase of language development. This method requires the child to watch the teacher's lips and interpret what she is saying. Thus we have "lip-reading" or, as it more recently has been termed, "speech-reading." Later the child tries to imitate these various movements (which constitute the teacher's speech) and slowly he learns to articulate. This is a long and tedious process about which more will be said later.

The teachers soon found that the sense of touch could be utilized to very great advantage in teaching speech. Consequently speech teaching became largely an individual affair with one child at the teacher's side putting his fingers on her throat, cheek, *et cetera*. Various stringed instruments

---

[4] Koffka, Kurt, *Op. cit.*, p. 330.

[5] Stern, William, "Psychology of Early Childhood," Henry Holt & Co. (1926), p. 152.

were also used with the children to test their tactual perception of pitch differences.

However, no scientific application of the sense of touch was made until Dr. Robert H. Gault began his investigations on the psychology of touch. Bearing in mind that the sense of touch is the "parent" sense embryologically and that the eyes and ears are highly specialized modifications of the skin, he set about to devise some means of instrumentally conveying the vibrations of speech to the skin of a deaf person.

After many years of patient research, he devised an instrument, in conjunction with the Bell Laboratories, which is now known as the Teletactor. The practical use of this instrument has been demonstrated with a public-school class of deaf children as well as with numerous college students and adults.

During the first four or five years in the schools for the deaf most of the time is spent in developing articulation and lip-reading. That the educators of the deaf put tremendous value upon such training outside of the social value is seen in the following statement of Dr. Crouter's.[6] "Even if the articulation and lip-reading of deaf children prove of no practical value as a means of communication, their acquisition has been of incalculable value in mind building."

In building up speech in the deaf child, the teachers have tried to follow the method in which a hearing baby develops speech; *i.e.*, they begin with babbling exercises, such as a hearing infant indulges in while in his crib. A number of breath consonants are then taught, and later a few vowels. These are then combined for articulation drill.

In the meantime the child is learning to lip-read by watching the teacher's lips and then seeing her point to some object. Thus he forms an association between these mysterious facial and throat movements of the teacher and various objects.

Articulation and lip-reading go on in this unrelated fashion for some time, for the deaf child is usually not al-

[6] Crouter, A. L. E., *Op. cit.*, p. 2.

lowed to try to speak a word until he can lip-read it perfectly.

In this matter of articulation there is one consideration in which psychologists can justly criticize the teachers of the deaf. It is granted that some articulation drill is necessary but it should be made vital—an integral part of the child's mental development instead of meaningless drills. For example, a child watches the teacher's lips and is given a drill like this—

pooth	thoop
footh	thoof
thooth	
tooth	thoot
sooth	thoos
kooth	thook
shooth	thoosh

He does his best at repeating these meaningless syllables but what have they to do with his understanding of the world and its spoken and printed symbols which he sees around him?

Parrots can be taught to articulate but they cannot be said to have language as there are no associative processes between their laryngeal activity and general bodily actions.

Preyer[7] has said: "Mobility and perfection in the technique of sound-formation are not speech. They come into consideration in the process of learning to speak as facilitating the process because the muscles are perfected by previous practice. . . . The formation of ideas is not bound up with the learning of words, but is a *necessary prerequisite* for the understanding of words to be learned first, and therefore for learning to speak." Dr. Crouter[8] recognized this difference which he expressed in the formula: Speech = articulation plus language. McCarthy[9] quotes Tanner[10] as saying: "After the child by his instinctive babblings and persistent imitation has learned to speak words, he learns

[7] Preyer, William, "The Development of the Intellect," Part II, "The Mind of the Child," D. Appleton & Co., N.Y. (1889).

[8] Crouter, A. L. E., *Op. cit.*, p. 6.

[9] McCarthy, D., "Language Development of the Pre-School Child," University of Minnesota Press, 1930, p. 136.

[10] Tanner, "The Child, His Thinking, Feeling, and Doing," Rand McNally & Co., Chicago, (1903).

to use them with a significance from constantly hearing one word used in connection with a given object." To which she adds: "Until this association is formed however, the child's imitative words are no more than the imitative words of the parrot."

Is this not the same type of training we have been giving the deaf children? They articulate but their articulation is, in Watson's terms, vocal habit and we have not provided the proper associations for these vocal habits to become language habits.

Let us digress for a few minutes and consider how these associations are built up in the normal child. We all know that certain words or sounds upon repetition come to take on meaning, as we say. What is this meaning? Pillsbury and Meader[11] say:

> The last mark that distinguishes images from thought is that in thought all has meaning, while images as images may or may not mean anything, and are always treated as if they had no meaning. . . . The best instances of meaning are to be found in words themselves. Normally these have no place in consciousness except in so far as they stand for ideas or things that they are for the most part not like. Through use and convention they have come to represent objects and various relational and other thought processes, and thereby they change from sounds or visual impressions without sense to become very real elements of thoughts.

It is in this connection that the associative processes play such an important part. The change from vocal habits to language habits could not take place without associations. In other words, *meanings* must be brought out by associating some object or action with certain vocal habits. The authors[12] just quoted express this as follows:

> An association is formed between the words and some object, event, or relation. This association serves to give it meaning. The meaning may be given, if the object itself is understood, by one association. Fuller meaning comes, however, from seeing or hearing the word used in a number of different concrete applications, each of which adds something to the total meaning of the word at any particular time.

How then can these vocal habits in the deaf child be changed to language habits? How can language development for the deaf child most effectively be carried on? How can

---

[11] Pillsbury, W. L., and Meader, C. L., "Psychology of Language," D. Appleton & Co., N.Y. (1928), p. 157.

[12] *Ibid*, pp. 167-8.

associations be established so that we will have speech and not just articulation?

It is a well known axiom that, other things being equal, the more avenues you can stimulate the stronger will be the resulting impression. Which is easier to recall and describe —an orange or a note of the scale? Naturally, the orange is more easily described because one can *see* an orange, *feel* it, *smell* it and *taste* it, whereas the note can only be *heard*.

It seems to the writer that here is the keynote to the education of the deaf. Stimulate *all* the possible avenues of sensory impressions in order to strengthen the associative bonds which are involved in learning. Flagstad[13] is of the opinion that the "word image" is a complex of visual, auditory and motor elements. This strengthens our contention that the young deaf child should be given print-reading and writing as well as speech and lip-reading.

This is not a new theory. Dr. Thompson[14] reports that Dalgarno proposed this method in 1680, and Alexander Graham Bell in 1897 taught a four-year-old deaf-mute to read. Dr. Bell was convinced that a young deaf child should be allowed to read even if he did not understand all the words on the printed page and could not articulate them perfectly. A number of present-day educators of the deaf are also convinced of the soundness of pedagogy founded on the principle of multiple-stimulation.

On the other hand many speech teachers bitterly resent the introduction of any written or printed forms until the speech habit is firmly fixed. They feel that the early introduction of these forms would make the deaf rely on the written form of language rather than on the oral form for their communication. This objection can be met in several ways. In the first place, the written form *does* of necessity take first place as a means of communication for most deaf people as it is the *exceptional* oral-trained pupil, rather than the *average* pupil, who can make himself understood outside

---

[13] Flagstad, C. B., "Psychologie der Sprachpädagogik," Leipzig.
[14] Thompson, Helen, "Experimental Study of the Beginning Reading of Deaf-Mutes," Columbia University Contributions to Education, No. 254 (1927), p. 8.

his own classroom or immediate family. Furthermore, anyone reading the pitiful jumble of words which constitute the "letters" of deaf people would no doubt hastily agree with Dr. Bell that "written language should be the basis of instruction for the congenitally deaf." And furthermore, the writer has found in teaching by this method that the speech activities are *not* relegated to a rear rank in favor of writing or silent reading but rather that the children are stimulated to further and more speech. A very striking example of this occurred with an experimental group of deaf children. In the spring bird books had been made in connection with nature study. Hectographed outlines of various birds were colored and put into the children's notebooks. Accompanying each picture was a simple story concerning the coloring, nesting habits, etc., of each bird. These stories had been written on the blackboard by the teacher. The pupils read them orally and later copied them in their notebooks. One day during the next winter the children were given a few minutes for free speech activity. At such times most of the children recited Mother Goose rhymes or other short verses which they had memorized in class. Imagine the teacher's surprise when one little girl got up and gave the story of the cardinal as she had read it in her notebook. And this child was from a home where signs rather than speech were the means of communication, as the mother was a deaf-mute. Had this child not had the printed symbol to fall back upon, she would never have been able to use her speech in the particular manner that she did upon this particular occasion. The teacher might have repeated the story of the cardinal a hundred times but the visual impressions received from the movements of her lips would not have been strong enough to carry over for months until the child was ready to reproduce them in her own speech. Very often the fleeting impressions of the teacher's face and throat are too indefinite for the child to make the proper motor response. In such cases if the same thing which the teacher said is put on the blackboard or on paper, the child would be able to read and re-read it until his mental images were strong enough so that he could reproduce it in a verbal

motor response. Is it not obvious that the child gets speech practice as he is repeating the statement from the board whereas if he were still struggling to get it from the teacher's lips it would be the teacher who would be getting practice in articulation and not the child?

As has been said, most teachers feel that the speech habit must be firmly fixed before introducing reading, but have they ever considered that for five, six or seven years before the child came to them, the same laws of habit were operative? But they were operative in fixing habits of gesture and emotional outbursts. Certainly no one would assume that habits of five years standing can be broken down in a year or two. Now if the child is denied any other satisfactory means of expressing himself what will happen? Naturally he will slip into his old habits which have always brought him the desired results in his pre-school days.

We have noted that in the normal child there must be need for speech before it actually takes place. What about the deaf child? Do we create an environment that expects speech of him? The answer is decidedly in the negative. The deaf child has little need for speech; everyone is solicitous for his welfare. At school, and even more so at home, his wants are anticipated or gestures and cries bring him the desired results. A further drawback to the development of speech in the deaf child is low speech standard on the part of the parents. Many of the children come from homes where no English, or very poor English, is spoken. Often there is a further handicapping factor of low mentality of the parents. The average parent does not expect much of a deaf child nor does he take pains to try to hold the child to any standard of speech or other mode of expression. Most parents take the easiest road out and point and gesture to the child, allowing him to respond in the same way. Occasionally one finds a parent who has intelligence and patience enough to set a standard of communication for the child and adhere strictly to it. A child of such parents is in one of our public day-schools with which the writer is familiar. This child is so far in advance of other children of her age in the use of language and in her general knowledge of everyday events

that it is almost unbelievable that she has always been deaf. Her teacher says it is a joy to teach her.

As has been mentioned before, articulation is a long and tedious process. Itard[15] found in working with the young savage, whom he was trying to civilize, that the adjustments for speech were much too fine for this creature to make; but he did succeed in teaching him a word. Not a spoken word but one which the young savage could reproduce when the need arose. Itard made four metal letters which, when properly arranged, spelled "lait" (milk). He taught the boy to arrange these and at the same time gave him his milk which he was wont to procure at a neighboring farm every afternoon. In a short time, much to Itard's delight, the boy could arrange these letters properly, and after which he would carry them in his pocket to the farmhouse where he "spelled" the word and was rewarded with his milk. Thus Itard was able to establish an association between certain symbols and a certain object. Had Itard waited for the slower process of establishing articulate speech, he probably would never have been able to show to the world any sign of intelligence in this pupil.

The situation is somewhat similar with the deaf child. Fill him full of meanings; meanings acquired through experience with visual and tactual symbols. Then, when he is ready for articulate speech, he will not be handicapped by already having established associations between certain symbols and objects but will be aided because the field will be clear for articulation. The child will not hesitate in his speech, wondering what a word means and trying to connect it with something in his experience, as he will then have already learned its meaning from the printed or written form.

Dr. Thompson[16] points out another objection that has been raised; namely, that if reading were introduced with speech work there might be a resulting confusion on the part

---

[15] Itard, Jean E. M. G., *Rapport fait à son excellence le Ministre de L'Intérieur, sur les nouveaux développements et L'état actual du Sauvage de L'Aveyron*, Paris, J. J. Marcel (1807).

[16] Thompson, Helen, *Op. cit.*, p. 9.

of the young child which would lead to behavior problems. She says this objection can only be answered by experiments and I believe it has been answered to the satisfaction of many severe critics.

In 1925-1926 an experiment was carried on in the Institution for the Improved Instruction of Deaf-Mutes, now the Lexington School, in New York City, by Dr. Helen Thompson of Columbia University. The detailed plan of the experiment as well as the results will be found in publication No. 254, Teachers College, Contributions to Education, Columbia University. The main point of this plan was to teach the child to read as well as to lip-read and to speak during the first year of formal education. Special material was prepared with the understanding of connected language as the aim rather than the teaching of a large vocabulary. One of the most significant findings of Dr. Thompson's experiment is:[17] "That in one year of beginning reading, two and one-half times as much reading ability can be developed as is developed under the present oral system."

Experiments of a similar nature have been carried on in other schools. An experiment using multiple stimulation was carried out with a second-year class in a mid-western school for the deaf.[18] A number of tests were given the children, and such data, after all, give the scientific right to call an experiment a success or failure.

First of all the children were given the following performance test in order to know what level of mental ability was being dealt with:

(1) Cube Imitation Test
(2) Seguin Formboard
(3) Manikin Test
(4) Feature Profile Test
(5) Two-Figure Formboard
(6) Mare and Foal Test
(7) Healy's Pictorial Completion Test, No. I.

---

[17] *Ibid.*, p. 60.
[18] Yearbook of the Carnegie Institution, 1928.

The first six were scored according to Arthur's Point Scale with the resulting mental ages and I.Q.'s as given below:

Pupil	Mental Age	I.Q.
A	9 yrs. 5 mos.	109
B	7 8	83
C	6 0	65
D	6 11	83
E	7 10	94
F	8 7	85

With only two children in the normal group, three in the borderline and one in the definitely feeble-minded group, no one could claim mental superiority for the experimental group.

A lip-reading test was given in October and repeated in May. The experimenter for this test saw the children for only two weeks in March between the original test and the re-test so the children were not familiar with his lips. A list of 130 words which the children had had for lip-reading prior to the October test was made. Objects representing these 130 words were placed on a long table. If no object was available, a picture was drawn on the blackboard. The group made an average improvement in lip-reading of 110.8%

EXPERIMENTAL GROUP (LIP-READING TEST)

Pupil	*October Test*	*June Test*	*Per cent Improvement*
B	33 %	69.2%	109.7%
F	25.3	67.6	167.1
A	24.6	70.0	184.5
E	53.8	79.2	47.2
C	33.8	73.8	118.3
D*			
Av. of group	34.1	71.09	110.8

* Absent

On October 18, the Detroit Word-Recognition test and Gates' Reading Tests I and II were given. The children could not handle Gates' type III nor Haggerty's Reading Test so these were omitted. These tests were repeated on June 14. At this time Gates' type III was added. The De-

troit test and the three types of Gates' test were also given to a control group. The results show the two groups almost perfectly equated in reading ability although the control group had been in school a year longer than the experimental group and averaged more than two years older chronologically than the latter. Both groups showed a reading grade placement of 2A on the Detroit test. Gates' test I showed a slight difference in favor of the experimental group; while type III showed a similar slight difference in favor of the control group.

EXPERIMENTAL GROUP (READING TESTS)

Pupil	*Detroit W.-R.T.*		*Gates I*		*Gates II*		*Gates III*		*Age in June*	
	Oct.	*June*	*Oct.*	*June*	*Oct.*	*June*	*Oct.*	*June*	yrs.	mo.
F	12	35	10	31	10	26		11	10	9
C	13	29	16	36	8	18		9	9	10
E	14	32	15	35	13	19		9	9	0
A	4	33	0	31	0	22		10	9	3
B	16	28	8	39	4	28		13	10	0
D	—	32	—	32	—	—		—	9	0
Cl. Av.	11.8	33	9.8	34	7	22.6		10.4	9.6	
Reading age		2A		2.65		2.45		1.75		

CONTROL GROUP (READING TESTS)
(One year in advance of experimental group)

	Detroit	*Gates I*	*Gates II*	*Gates III*	*Age in June*
Class Average	33	34.83	20.83	11.33	11.11 yrs.
Reading age	2A	2.65	2.35	1.80	

Perhaps it would not be amiss to mention that all regular work as prescribed in the regular course of study for the deaf for the second year was completed. Of course the children went far beyond any reading requirements.

Here then we have direct experimental evidence that reading taught simultaneously with lip-reading and speech does not confuse or handicap the young deaf child but rather accelerates his learning rate. This ought to be a challenge to the teachers of the deaf to enlarge their conception of *language* and think in terms of neural stimulation and activity instead of "how" forms and "why" forms.

Helping Our Graduates Secure Positions

By WESLEY LAURITSEN, M.A.
Instructor in the Minnesota School
Faribault, Minn.

ONE WAY of measuring the success of the graduates of our schools is to note how many are employed and how gainfully they are employed.

Despite the fact that we do all we can to help our boys and girls until the day they leave school, it remains a fact that as a rule they are none too well prepared to step into responsible positions or meet the keen competition of the present-day industrial world.

Dr. J. L. Smith, noted instructor of the Minnesota School, is authority for the statement that the great majority of pupils in our schools are of average or below-the-average ability. He states in the *Vocational Teacher,* December, 1930, "What they most need to fit them for the stations in life that they will perforce occupy is as good an understanding of spoken or written colloquial English as we can give them, and a good vocational training."

Granted that we have given them this, they are handicapped by the lack of hearing, many by the additional absence of speech, and nearly all by their inability properly to offer their services. We can do nothing that will restore the hearing, and not overmuch to provide them with practical speech, but we can materially assist our young friends by teaching them how to offer their services, and by furnishing them with scholastic, vocational and character records and references that can be shown to prospective employers. We can teach them to write letters that correctly present their cases.

Believing that our interest in our pupils should not end with their graduation, I shall set forth in this paper concrete methods by which I believe we may materially help them after they have left school to offer their services in the correct manner to prospective employers. It should be noted that several times the term *offer their services* has been

used. We should make it strong that they should *never* ask for a job. They are not begging or seeking something for nothing. They want to sell their services which are, or should be, as valuable as any concrete article that they may have to offer. They are, in fact, conducting a business transaction. Many a business man has turned away applicants who have approached him with the cut and dried, "Can you give me a job?" or some similar question.

That the adult deaf of the country are fully awake to the importance of securing and holding their jobs is evidenced by the interesting article in the August 6, 1934, issue of *Time*. This report said that the chief convention problem of the National Association of the Deaf was JOBS. We read, "They were worried by a tendency among employers during depression to refuse jobs to deaf persons. To refute the commonest excuse offered, N.A.D.'s retiring president, William Schaub, of St. Louis, last week reported on a forty-state survey which showed that the compensation and liability laws of not a single state discriminate against the deaf."

Can we make vocational guidance help? This is an important question. There may not be much value in vocational guidance when a pupil is ready to leave school, but early vocational guidance that will assist our very young boys and girls in choosing trades that will interest them and which they may successfully follow through life should be of great value.

A few words from leaders outside our schools for the deaf on the subject of vocational training will be appropriate here. Dr. Irving Lorge, research associate in the Institute of Educational Research, Teachers College, Columbia University, says, "Vocational guidance as practised today in high schools and colleges throughout the country can lead only to shattered hopes and bitter disappointment for hundreds of thousands of students now receiving so-called vocational counseling. Vocational guidance is in danger of making a virtue of charlatanism. Counselors and advisers, supposedly mapping out the type of work best suited for adolescents and adults, have no more basis in rendering their decisions than have fortune-tellers, astrologists, or palm-readers."

"Vocational guidance," he also declared, "is no better than guessing, and considerably less honest."[1] He bases his remarks on a twelve-year survey in which 2,500 boys and girls in New York City elementary schools were the subject of study.

Dr. Harry D. Kitson, director of the vocational guidance department, Teachers College, Columbia University, made quick reply to Doctor Lorge's comment quoted above. He said that guidance was anything but clairvoyance and that the well-trained vocational counselor would refuse to predict a vocation for an advisee, deeming it "morally wrong to make people's decisions for them." He declared that the proper function of the counselor "is to help the individual to become interested in worthy occupations, to find information about them, and to examine the conditions, opportunities and rewards obtained in them. He also assists the individual in making an inventory of his present assets—physical, psychological, social, and economic." He further states, "The enlightened servants of the vocational guidance movement are not trying to make of vocational guidance a science. Even at its highest development it will only be an art like the practice of healing, teaching, and nursing."[2]

Another question directly connected with the topic at hand is, Why must many of our graduates start at the bottom in a big commercial shop after having spent five, six or seven years in a school shop? Perhaps it would be better terminology to say "school vocational class" than "school shop." The question has been answered in various ways by superintendents, principals and teachers in the pages of the L.P.F. Mr. P. N. Peterson of the Minnesota School says that two hours a day in the shops is not enough, and like many others suggests postgraduate vocational courses such as the Iowa School has lately offered to a few. However, the consensus of opinion, as expressed by instructors in ten residential schools visited by the writer and by leaders from a score of other schools interviewed on the subject, is presented in less than two lines by Dr. Elbert A. Gruver, superintendent of the Pennsylvania School. He says, "Handi-

---

[1] *Literary Digest,* June 2, 1934, p. 33.
[2] *Ibid.*

capped by untrained and underpaid teachers, inadequate equipment and limited time, *we cannot teach a trade.*"[3] We cannot expect our graduates to secure skilled employment if they have "learned" the trade from a teacher who himself is not a strictly first-class workman able to hold a position as head man in a first-class shop. Of course, the ability to teach is an additional requisite. The statements in this paragraph must not, however, be interpreted to mean that the majority of vocational teachers are unqualified for their work —far from it.

Well prepared or poorly prepared to face the battles of life, every pupil leaving school is confronted with the problem of securing a job, whether his leaving is premature or regular graduation.

During the war, with many of our able-bodied men at the front, practically all of the deaf were employed. Today it is a different story. A good job no longer walks in the front door. One must go out and look for it.

Various methods are used by the deaf in securing positions. Some old plans will here be outlined and several new ideas will be offered which it is believed may materially assist our young friends, and old ones too.

Minnesota, North Carolina, California, and perhaps several other states have placement officers who are paid by the state to secure jobs for the deaf. This is a very good idea, but it is easy to understand that the activities of such officers, even very efficient live-wire types, are strictly limited unless they have a very liberal expense allowance, as the work for the most part must be confined to one or more of the large cities. The state appropriation for the work in Minnesota is so small that the official is constantly under great handicap. In Minnesota and North Carolina the state placement officer has no connection with the state school for the deaf, but in California the placement officer works under the direction of the principal of the state school. In New York City the three large residential schools maintained chiefly by state appropriation are co-operating in the appointment and support of a placement officer who serves them jointly. There may be certain advantages in having

[3] ANNALS, vol. lxxviii, no. 5, November 1933, p. 389.

the state placement officer work under the industrial commission or department of labor—additional prestige, for instance, but close co-operation with the state school is essential. In Minnesota the relations are cordial. But, to say the least, the person delegated to secure jobs for the deaf has an exceedingly difficult position to fill. This official is expected to educate the employers as to what the deaf can do and at the same time get for the deaf what perfectly normal people cannot get these days—JOBS. Everyone should forget personal differences and support these officers fully. They need more encouragement than do teachers in the classroom who have their work laid out for them. The placement officer must go out and hunt, and struggle for jobs for the deaf.

At the Washington State School for the Deaf they are using an interesting method which is intended to teach the older pupils the "technique" of selling themselves to employers. It is described by Mr. D. J. Coats in the school's paper—thus: "Pupils of the upper grades are sent out periodically for 'interviews' for employment with the superintendent, principal or any member of the faculty capable of assuming the hard-boiled, 'show-me,' or 'don't bother me' attitude typical of the 'boss.' The entire interview is carried on with pad and pencil, or by speech, if possible; signs are barred. The written 'interview' is then taken to the instructor for correction."[4]

A similar plan in vogue in the Louisiana School is described by Superintendent L. R. Divine of that school, in a brief paper in the ANNALS for May, 1934. Here the members of the staff of the school also act as prospective employers whom the pupils approach in the same spirit they would if they were really seeking work. This is an actual school project and is carried out with all the earnestness required under actual working conditions, with this benefit, that the pupils are taught how to do it properly.

A method that the writer has used a number of times with success was to offer to work for a week, at the end of which time a decision as to what he was worth to the firm

[4] ANNALS, vol. lxxviii, no. 5, November 1933, pp. 399-400.

was to be made. The position sought was in each case that of baker for the summer vacation. Employers were found extremely reasonable in every case and they paid the regular scale paid bakers in the locality, and in no case did anyone ever take unfair advantage of the offer to work under this arrangement. The lowest ever paid the writer under such circumstances was $25 per week, and the most $40 per week.

Nowadays many employers who hire large numbers of people require prospective employees to fill out lengthy questionnaires. The writer has had twelfth-grade boys fill out questionnaires for practice and found that they do not do well as a whole. For this reason it would seem to be beneficial to have our school print shops put out some sample questionnaires to be filled in by pupils in the upper grades as part of their school work. Samples of application blanks such as the various states require applicants for state positions to fill in may be used as models. Several drills on filling out such questionnaires will be in place, and each pupil should be permitted to take home a copy that is filled in correctly.

Exercises in letter writing offering services in various capacities form excellent classroom work and will often be of concrete value to the pupil after he has left school, as a good letter often lands the job. During a year when teachers were not so plentiful as they are today, a young lady who wrote merely a fair letter communicated with the superintendent of the Minnesota School in hopes of becoming a member of the school staff. She was delighted with an offer sent to her and wrote back saying she "excepted" the position. The superintendent took her "exception" literally, and her feet never trod on Faribault soil. Several typical letters applying for positions are reproduced below:

723 Sixth Street N.E.,
Faribault, Minnesota,
August 21, 1934.

Newhorn Printing Co.,
675 Fifth Street South,
Minneapolis, Minnesota.

GENTLEMEN:

Seeing your advertisement in this evening's Minneapolis *Journal* for a printer, I wish to apply for the position.

I am nineteen years old and was graduated from the high school department of the Minnesota School for the Deaf, at Faribault, last

May. During the past six years I have worked in the school print shop two hours daily. I have worked in every department of the shop and can operate the linotype.

You are at liberty to refer to Mr. Leonard M. Elstad, the superintendent of the school from which I was graduated, as to my character and ability.

As to the salary I would expect, I shall be glad to work for you for a week, at the end of which time you will be able to judge what I am worth to your firm.

Should my application fill your views, it will be my earnest endeavor to fulfill faithfully and punctually the duties required.

Respectfully yours,

JOHN BIGDOE

197 Fifth Avenue South,
Saint Paul, Minnesota,
August 30, 1934.

Mr. Frank Walser,
Minnesota Lake, Minnesota.

DEAR MR. WALSER:

I have heard through a mutual friend that you are in need of a man on your farm, and desire to offer myself as an applicant for the place.

I was graduated from the Minnesota School for the Deaf in 1933. Since that time I have been working on the farm of Mr. Joe Henton, Newton, Iowa. I left his employ a week ago as his son, having lost his position in Des Moines, came home and will henceforth do the chores that I have been doing. I believe that Mr. Henton was satisfied with my services as our relations were constantly pleasant, and you are at liberty to write to him.

While at school, I took the course in agriculture and I have worked on the farm during my summer vacations during the past six years. I am now twenty years old and in good physical condition.

I am anxious to work again and would be willing to work for a small salary.

Yours very truly,

MILTON LINDBERGH

These or similar letters might well be written on the slates for the pupils to study. They should then be required to write letters and set forth their own case. These letters should be written on paper and the teacher should take great care in correcting them so that they may state clearly and accurately what is meant. The pupils should then be required to copy the corrected letters and hand them in, for even bright boys and girls make mistakes in copying. These letters should be as nearly perfect as possible, since they may later be used as specimens.

As most of our pupils will no doubt secure employment by personally approaching employers, it is hoped the suggestions contained in the following paragraphs may be used as they are, or at least in a modified form.

Before the close of school the administrative officer should fill out, or have filled out, blanks containing information for prospective employers similar to that appended. These should be made out in triplicate, one copy being given to the pupil, one kept on file in the school office, and one sent to the state placement officer. In case the state has no placement officer, it is very likely that the administrative office could secure co-operation in placing graduates through the state industrial commission or the department of labor. With a diplomatic approach, no difficulty should be experienced in this.

A good personal letter of recommendation from the administrative officer addressed "To Whom It May Concern," clipped to the information blank, will introduce the bearer and break the ice, almost assuring the applicant at least an audience. It is suggested that the applicant be drilled on approaching prospective employers with blank and letter. The method used at the Washington School as outlined above is good. Myself deaf, I always speak, and I would advise that all who have the ability to speak so that strangers can understand them, speak, by all means. Those who find it difficult to make strangers understand their spoken English would do far better by using the pad and pencil, there being no question that one makes a far better impression this way than by stuttering over words that others cannot readily understand. Those who are able to read the lips should do so, but those who misunderstand half the time will save themselves many embarrassing moments by requesting that the pad and pencil be used.

A suggestion as to what the information blank to prospective employers should contain follows. In the printed form, words not needed should be crossed out as the case may be.

MINNESOTA SCHOOL FOR THE DEAF

INFORMATION FOR PROSPECTIVE EMPLOYER

The bearer .....

whose home address is.....

and home telephone number is.....

was graduated/honorably discharged from the Minnesota School for the Deaf, Faribault, Minnesota, on.....

He/She is desirous of securing work as.....

He/She has the following experience in this line.....

.....

.....

He/She has also had the following experience.....

.....

.....

For your information regarding his/her deafness, we wish to state....

.....

.....

Brief personal history is as follows:

1. Country of parents' birth: Father.....Mother.....
2. Applicant was born in.....
3. Father's occupation is.....
4. Applicant has attended the Minnesota School for the Deaf for a period of.....years.
   Other schooling as follows.....

.....

5. Attitude toward (Excellent, good, fair, poor.).....
   Classroom instruction .....
   Classmates .....
   Vocational work .....
   Desirable ideals in life.....
   School in general .....
   Diligence and perseverance.....
6. Success in scholastic achievement.....
7. Success in vocational achievement.....
8. Success in initiating a task.....
9. Success in getting along with others.....
10. Spends much leisure time at.....
11. His teachers have rated him/her on the following matters as indicated:
    Originality .....
    Punctuality .....

Carefulness .....

Honesty .....

Sociability .....

Self-confidence .....

Additional information as to the applicant's character and ability may be secured upon request from.....

The above information furnished....., 19 , by.....
Superintendent.

Through the school paper unemployed graduates could be advised that they might receive information blanks similar to the above upon request.

In conclusion the writer would suggest that those who have read this article and believe the ideas set forth can help the young people in their school secure positions begin at once to make some definite provision for this. The work might well be made a required part of the curriculum and placed in the course of study where it will not be lost. Someone should be made responsible to see that the work is done each year, for minds are sieves, and in our busy lives we are apt to forget many worth-while things.

A Comparative Study of the Movements of the Breathing Muscles in Speech and Quiet Breathing of Deaf and Normal Subjects—II[1]

By CHARLES G. RAWLINGS, M.S.
Instructor in the New Jersey School, West Trenton, N.J.

RESULTS

The following is a statistical analysis of the results found:

(1) *The Phrase.*—One of the most accurate as well as the clearest methods for making comparison between, as well as within, the different group classifications is by means of distribution curves. These show the mean amplitude of the phrases for the four groups. From the results found it is to be noted that these phrase amplitudes are all very nearly the same for all the groups. This means that the amplitude for the individual phrase of each group is on the average about the same. That is to say that no more air is used for the phrase by one group than by another. Of course, the important fact to bear in mind at this point is the variation in the average number of phrases made by the groups in speaking the test paragraph, which may be summarized as follows:

Normal group	Average Number, 4.4
Group A	Average Number, 5.1
Group B	Average Number, 6.7
Group C	Average Number, 9.4

And the average number of syllables per phrase, which may be summarized in this way:

[1] Continuation of an article begun in the ANNALS for March 1935 (Vol. lxxx, no. 2.), pp. 147-156. In the introductory section, explanation was made of the methods and apparatus employed in investigating the abnormalities in the speech of deaf persons. The test material consisted of a simple paragraph of 50 syllables, with kymograph tracings of the breathing movements involved in speech. Four groups of persons participated in the experiments; three of them comprised deaf subjects, groups A, B and C, according to degree of deafness, and one group was made up of ordinary hearing persons.—*Editor,* ANNALS.

Normal group	Mean, 12.5
Group A	Mean, 8.5
Group B	Mean, 8.1
Group C	Mean, 5.8

The mean amplitudes of the phrases for the groups were as follows:

Normal group	Mean, 10.18, S.D. 3.24
Group A	Mean, 9.42, S.D. 2.50
Group B	Mean, 9.15, S.D. 1.92
Group C	Mean, 7.60, S.D. 2.30

The fact that group C had a mean amplitude for the phrase that was lower than any of the other groups is explained by the fact that it made many more phrases for the paragraph than did the others, as shown by the first of the tables above.

These figures show a very progressive decrease in the number of syllables per phrase; the normal group including the greatest number of syllables in the phrase while the group which has the least amount of hearing has the least number of syllables per phrase. This means that group C must make many more phrases in speaking a paragraph of a given length than group B, and group B more than A.

The next point to bring out in this summary of the results found in the study of the phrase is a comparison of the average length of time for the phrase by the groups. These results were as follows:

Normal group	2.9 seconds
Group A	2.3 seconds
Group B	2.5 seconds
Group C	2.12 seconds

The fact that the average phrase length in time was nearly the same for all the groups would at first appear rather surprising. This by no means indicates that the average length of time taken for the groups in speaking the paragraph will compare as closely. True, the average length of time required by the groups in speaking the phrase was about the same *but there was a great variation in the average number of syllables contained in those phrases.* This means that there will be a wide discrepancy among the groups as to the average number of phrases required in speaking the same paragraph. The significance of this may

be determined by again referring to the figures, which were as follows:

Normal group .....4.4 phrases for the paragraph
Group A .....5.1 phrases for the paragraph
Group B .....6.7 phrases for the paragraph
Group C .....9.4 phrases for the paragraph

As a brief summary of the phrase, it has been shown that there was slight variation in the average amplitude of the phrase between the different groups, meaning that little more breath was used by one group than by another in speaking an individual phrase. Also, the time taken for speaking the average phrase for each group was about the same. But all of this is offset by the fact that there was a progressive decrease in the number of syllables per phrase, and the consequent increase in the number of phrases for the entire paragraph, which is positively correlated with the increase of hearing loss.

(2) *The Paragraph.*—The paragraph was constructed of a total of 50 syllables. The words were simple and were handled with comparative ease by every subject regardless of age or amount of hearing loss. The paragraph read as follows:

The cook made a cake in the kitchen. The cake was made for Mary. It was her birthday and she was ten years old. There were ten candles on the cake. All the children in the class were asked to come to the party.

The first fact to be considered—and already noted—is the average number of phrases that each group took in repeating the above paragraph. As was stated, group C, in speaking the same paragraph, used more than twice the number of phrases which the normal group used.

The total amount of breath expelled by the four groups in speaking the paragraph is a very interesting and significant factor in this study of the speech of the deaf. The kymographic records showed clearly the relative amount of breath used by each subject in terms of the phrase amplitude for each time that the paragraph was spoken. The amplitude of each phrase was measured in millimeters as recorded by tracings from the lower sternum and the abdomen.

A mean amplitude for each phrase was then determined and the sum total of the amplitudes of all the phrases included in the paragraph was actually the relative amount of breath utilized by the subject in speaking it. Each subject repeated the paragraph at least five times. This relative amount of breath as used by each subject was measured and distribution curves were made of the results. The subjects were classified according to their groups. These results were as follows:

Normal group ..... Mean—38.36, S.D. 7.0
Group A ..... Mean—51.49, S.D. 16.0
Group B ..... Mean—58.33, S.D. 34.5
Group C ..... Mean—77.28, S.D. 63.0

The large standard deviations for the three deaf groups indicate wide variability of the individual subjects within each group. The means do show, however, that there is a progressive increase in the amount of breath consumed with the progressive increase in the amount of hearing loss of the groups; namely, a mean of 38.36 for the normal group to one of 77.28 for group C, the group with the least amount of hearing.

The time required for speaking the paragraph was recorded simultaneously in fifth seconds. The normal group required less time for speaking this passage than did either of the other three groups. Furthermore, there was a progressive increase in the amount of time required by these groups for speaking this passage as the degree of hearing loss increased. The means and standard deviations are presented below. The differences between the normal average time and that of the deaf groups are reliable in every case. The coefficient of reliability between the normal group and group A is 2.4. Expressed in terms of chances, this means that there are 99 chances in 100 that this difference will not reduce to zero. The difference between the average time for groups A and B is small and not entirely reliable, the coefficient of reliability being 1.5. The difference between groups B and C, however, is highly reliable and the reliability coefficient is 2.8. Summarized, the average time for the paragraph was, by groups, as follows:

Normal group .....13.6 seconds; S.D. 1.6
Group A .....15.5 seconds; S.D. 2.5
Group B .....17.2 seconds; S.D. 2.9
Group C .....20.24 seconds; S.D. 3.9

The total amount of breath used by the different groups in speaking the paragraph has been stated above. But the time taken in speaking the paragraph by those groups also differed. The next step then was to find the total amount of breath used by those groups in speech over a specified period of time, that period to be one minute in length. These figures then were to be compared to the average amount of breath consumed by the corresponding groups over the same period of time during quiet breathing. In other words, the phrasing rate for each subject had to be computed and multiplied by the average phrase amplitude for those subjects, that figure being the total amount of breath used by the subjects over a given period of time.

(3) *Quiet Breathing.*—Tracings from the lower sternum and the abdomen were recorded by the kymograph while the subject was standing and breathing quietly. The amplitude of each breath curve was measured and the average amplitude for all the curves made by each subject was determined. The subjects were classified according to the group to which they belonged and distribution curves were made and the mean and standard deviation for each curve determined. The results were as follows:

Normal group .....Mean—11.46, S.D. 2.08
Group A .....Mean— 8.04, S.D. 2.53
Group B .....Mean— 9.48, S.D. 3.2
Group C .....Mean—10.10, S.D. 3.4

These figures compare rather closely, especially those for the normal group with those of group C. These groups were more evenly divided as to the number of females and males that comprised them and, also, the ages of the individuals that made up the two groups were about the same. Groups A and B, however, were composed of younger children and since they were not physically so well developed as members of the two other groups their lung capacity was smaller and they required less breath.

While the records of quiet breathing were being made,

the time clock registered intervals of seconds, and the breathing rate of each individual for the period of one minute was determined. This rate was then multiplied by the average amplitude of the breathing curve of the corresponding individual. This formula, rate times amplitude, was a relative measure of the amount of breath expended by each individual in quiet breathing over a period of one minute. The subjects were divided into their groups and distribution curves were made of the average amount of breath used by each group in quiet breathing over a given period of time. The results were as follows, measured in millimeters:

Normal group .....Mean—180.12, S.D. 47.6
Group A .....Mean—160.80, S.D. 34.4
Group B .....Mean—141.84, S.D. 50.0
Group C .....Mean—180.38, S.D. 48.5

Here again the differences in the size of the groups, the age of those people comprising the groups, and the sex differences, were all factors influencing the results. But since the normal group and group C, the two largest groups, were so nearly identical as to results found above, it is safe to say that there is very little difference between the deaf and the hearing insofar as expenditure of breath in quiet breathing is concerned.

(4) *Breathing In Speech.*—The same formula, rate times amplitude, was applied to the spoken paragraph. This rate was determined as follows: The average number of phrases made by each subject in speaking the paragraph was known. The time that each subject had taken in speaking the paragraph was also known. The average amplitude of the phrase for the paragraph for each individual had been determined. In order to compute the rate then, the average time taken in speaking the paragraph was divided into the number of seconds in one minute. The result was the fraction of a minute taken by that subject in speaking the paragraph. The average number of phrases that the subject had taken in speaking the paragraph during that fraction of a minute was known; this was then multiplied by the fraction and the result was the average number of phrases the subject would have spoken during a period of one minute. This rate, multi-

plied by the average amplitude of the phrase for the paragraph, gave the relative amount of breath expended by the individual over a period of one minute as expressed in terms of millimeters. The subjects were classified into their groups according to their hearing loss and the results were as follows:

Breathing in speech

Normal group	Mean, 186.0, S.D. 42.0
Group A	Mean, 192.6, S.D. 44.5
Group B	Mean, 211.28, S.D. 33.0
Group C	Mean, 212.60, S.D. 63.1

Quiet breathing

Normal group	Mean, 180.12, S.D. 47.6
Group A	Mean, 160.80, S.D. 34.4
Group B	Mean, 141.84, S.D. 50.0
Group C	Mean, 180.38, S.D. 48.5

This total amount of breath expended in quiet breathing compared with the total amount of breath expended in speech over the same period of time furnishes a very interesting and significant comparison between the speech of the deaf and that of normal subjects. We find that the normal person, on the average, uses about the same amount of breath while speaking in a conversational tone over a period of one minute as he uses while breathing quietly for the same length of time. These results show, on the other hand, that the deaf use more breath while speaking than they do while breathing quietly. This excess amount of breath utilized in speech by the deaf likewise increases with an increase in hearing loss through the groups.

Discussion of the Results

The results of this study show a wide degree of variability between individuals as well as between groups. It is an impossibility, therefore, to formulate a type of speech which might be labeled as "standard deaf speech." Even if it were possible to do so, it would be of no value to the speech instructor since it is his purpose to develop the speech of the deaf as nearly as possible along the lines of normal speech. Since this is true, normal speech was taken as the standard and the speech of the deaf was studied and compared with that normal standard. The quantitative data obtained from

the normal group may be accepted as a standard since the distributions fall within a very narrow range, and the amount of data obtained and the number of subjects used were sufficiently large to insure a fair degree of reliability. The comparison of the data obtained from the deaf and the normal subjects, therefore, becomes highly significant as a measure of the speech of the deaf.

The records show that the degree of deviation of the deaf from the standard normal speech increased with an increase in the degree of hearing loss. Records were taken from subjects who had become deafened from illness after having heard for varying lengths of time. These records show that their speech deviated only slightly from that of normal speech insofar as the co-ordination of their speech muscles was concerned. This tends to show the close relationship that exists between hearing, or having had hearing, and speech. For this reason then, the importance of the training of residual hearing and the use of amplifiers and other hearing aids in speech training cannot be stressed too greatly.

Language and speech proceed and are built up with a rhythmical pattern as a basis. This pattern is commonly referred to as the "swing" of the sentence. In building a sentence, the normal speaker has a concept of the rhythmical pattern that the sentence he is about to formulate is going to take, even before he is aware of the exact words that he is going to use. The fact that speech and rhythm go hand in hand cannot be stressed too much. It is this rhythm and swing which carry the sentence along at a normal rate of speed. Rhythm and accent are primarily matters of movements and the grouping of movements into dynamic patterns. If the deaf child could be given an appreciation of this fact and trained from his first years in school to speak with a normal rhythm even at the cost of perfect articulation, his speech would be far more natural and intelligible to the general public. There are many cases of deaf people whose articulation and pronunciation of sounds are quite imperfect but who possess a normal rhythm of speech. This type of speech is much more readily understood than that of the

deaf person who speaks with a greater degree of accuracy of sound pronunciation and no rhythm.

The normal subjects divided the paragraph into an average of 4.4. phrases. It should be added that all but four of these subjects spoke the paragraph in five phrases. The placing of the pause, or the phrasing of this paragraph, insofar as the normal subjects were concerned, did not depend upon the necessity for taking breath. They all paused at those five points because the rhythmical demands of the paragraph required that they pause there. Groups A and B divided the paragraph into 5.1 and 6.7 phrases respectively. These two groups, and especially the first, correlate so closely to the normal group that the conclusion may be drawn that the degree of hearing plus the training they may have received through their hearing has given them an appreciation of the natural swing of fluid prose. Also, their pauses were so placed as not to interfere with the thought to be conveyed. This does not hold true with group C, the group that contained those subjects with no usable hearing. They spoke the same paragraph in an average of 9.4 phrases. They divided the paragraph into more than twice the number of phrases than the normal group did. Moreover, thirteen of the 33 subjects in group C spoke the paragraph in from ten to fifteen phrases. These figures were averages and there were instances where individuals divided the paragraph into as many as eighteen phrases. This is an indication of no appreciation for the rhythmical demands of fluid prose. These pauses were taken, not because of the rhythmical demands of the passage, but simply because they needed more air in their lungs with which to speak further. It is extremely difficult for the average person to understand such speech; those who are thoroughly familiar with the speech of the deaf learn to understand it.

The lack of knowledge of the natural rhythm in speech was one of the determining factors in explaining the progressive increase in the length of time taken for the groups of subjects in speaking the paragraph. Many of the deaf subjects took more than twice as long to speak the same passage as did the normal subjects. There are at least three

reasons for the existence of this wide variation of time. The first is the fact that they do not possess a natural rhythm which tends to swing their speech along at a more or less natural rate of utterance. As a matter of fact, the majority of the totally deaf possess no speech rhythm, natural or otherwise. Their speech may be characterized as arhythmic. There is no inflection on the word or phrase that should be stressed and the sentence ends in the same tone of voice in which it begins; there is no inflection of voice at the end of the sentence that would show whether or not it is a statement or a question. This makes for extreme monotony of speech. The lack of the normal speech rhythm found in the extremely deaf group is due to the fact that they have not heard normal speech and therefore cannot imitate it. This does not mean that they cannot be taught the normal rhythm of speech. Rhythm is primarily a matter of grouping of movements about a main movement which is the accent, and is not primarily a matter of sounds. The fact that subjects who became deaf after they learned speech still retain a normal speech rhythm, in spite of the fact that they do not hear sounds, is evidence of this. Systematic rhythmic drills from the very beginning of speech development in the profoundly deaf child would tend to build up the rhythmic patterns of speech in spite of the fact that the sounds could not be heard.

The second reason that may partially explain the slowness of the speech of the deaf lies in the method in which their speaking vocabulary has been built up and the way in which they have been taught to pronounce words. New words that are given to the child to add to his growing vocabulary are introduced as isolated words and not given in connected language. Since the words are taught by themselves, when the child attempts to make a sentence out of those words the result is that each word turns out to be a phrase in itself. It is a fact that in normal speech words rarely if ever occur alone. They are all part of a sentence pattern that go to make up a complete thought. The implication here is that the child might better acquire fluent speech if he were taught that each word is but part of a rhythmical pattern and new

words were introduced in connected language rather than as isolated units.

A third factor that might explain the slowness of the speech of the deaf is the common method followed in teaching the child the pronunciation of words. All of the elements are taught separately. They might better be taught in combination with a vowel; a combination that will later fit into a word. The suggestion is that where possible the syllable be taught as a whole and not in parts as is the general tendency. The old method makes the child conscious of the fact that the word that he is about to pronounce is a difficult combination of consonants and vowels, each element demanding a modification of the tongue, lips, or some other organ of articulation rather than as a group of syllables. Following the old method, the natural tendency is for the child to speak with great care, very slowly, drawing out each vowel an unnatural length of time.

The releasing and arresting consonants in words play an important part in fluency of speech. If a child is to be taught to speak fluently, he must be taught the difference between these two consonants. The consonant chart, as used in the majority of schools for the deaf, does not discriminate between these two types. They teach only one kind and that the releasing consonant. The differences in the function of these two consonants are as follows: The releasing consonant starts the syllable. In the releasing consonant the pressure is built up in the mouth and is released as the mouth opens for the syllable puff. At the end of the syllable the arresting consonant or the consonant that ends the syllable blocks the breath flow, the pressure backs up and assists in arresting the syllable movement of the chest.[2] It is essential that speech teachers recognize the part that these consonants play in making for fluency of speech. The consonant charts display only one type of consonant, the releasing type. Consequently, when a child says *cat* he releases the final *t* in an explosion. That is, the *t* becomes a releasing consonant and

[2] Stetson, R. H., Speech Movements in Action, American Laryngological Association, 1933, Vol. lv, 29, *Reprint*.
Stetson, R. H., Motor Phonetics, 1925.

an extra syllable is added. Not being able to hear his own speech, the tendency is for the child to vocalize that final explosion thus adding an extra syllable to the word. The word *cat* becomes *cat(a)*. The following is a typical example of the speech of a very deaf boy and shows the extra syllables that have been added to the simple paragraph that was given to read: (Each spacing illustrates a phrase as spoken by this subject.)

The cook(a) made a cake(a) in(a) the kitchen. The cake(a) was made(a) for Mary. It(a) was her birthday, and(a) she was(a) ten(a) years old(a). There were ten(a) candles on(a) the cake. All the children in(a) the class were asked(a) to come(a) to the party.

The total amount of breath expelled by the four groups in speaking the paragraph is a very instructive as well as significant factor in this study of the speech of the deaf. The figures indicate a very marked progressive increase in the amount of air used by the groups in speaking the paragraph with an increase in the amount of hearing loss for the groups.

Another significant fact is that although there was a progressive increase in the amount of breath used in speaking a given passage with the increase in hearing loss, there was also a progressive increase in the length of time taken for speaking the passage. The essential fact to be determined is whether or not this same increase is found when they all speak the same length of time. The results show that when time was held constant very little less breath was used by the normal group than by groups A and B, but the average for group C is greater by 26 mms. On the other hand the deaf groups were found to use about the same amount of breath during quiet breathing as did the normal group. The exceptions to this statement are groups A and B, which were not homogeneous groups.

The above comparisons furnish some very interesting conclusions. The mean amount of breath expended for the normal group in *quiet breathing* was 180.12, and the mean amount of breath expended for the same group in *speech* over the same period of time was 186.0. *This indicates that over a given length of time the normal group do not expend*

any more breath in quiet breathing than they do in speech. The deaf groups on the other hand expend more breath in speech than in quiet breathing. But they expend comparatively little more breath *over a given period of time* in speech than do the normal group; a difference from the normal by group C, the deafest group, of only 26 millimeters for one minute. This fact should be of particular importance to teachers of the deaf; that is, *that the deaf expend very little more breath in speech over a given period of time than do the normal subjects.* Actually, however, they expend a great deal more in speaking the paragraph. This is due to the fact that they speak almost twice as slowly as do the normal subjects. It remains then for the teachers of the deaf to instruct the pupils to speak with more rapidity and that defect will be eliminated. If the speech of the deaf could be speeded up to approximate normal speech rapidity, they would speak approximately the same number of syllables with the same expenditure of breath as do normal subjects.

It is not an impossibility to speed up the speech of the deaf. A fourteen-year-old child whose audiometer tests showed her to have absolutely no usable hearing and whose history showed her to have been deaf from birth was given special training by the writer and others in rhythm and fluency of speech, observance of releasing and arresting consonants, and special work on the correction of nasality. This work covered a period of about seven months. Last year this girl spoke a nine-syllable phrase in 5.2 seconds with a phrase amplitude of 22.0 millimeters. The normal time for that same phrase was 2.4 seconds with a phrase amplitude of 10.8. This year, after a few months of special training (not with this particular phrase) she spoke the same phrase in 2.9 seconds with a phrase amplitude of 8.4 millimeters. Both time and the amount of breath were reduced until they fell within the normal range for this phrase. This at least is an indication of what might be expected if more emphasis is placed upon rhythm and fluency in speech training. At the same time, however, the "elemental" defects are not to be neglected.

SUMMARY

The kymographic method was used to study the speech co-ordinations of 58 deaf subjects and fifteen normal subjects. All of the subjects were required to speak the same speech material which consisted of a paragraph of 50 syllables in length. The records were measured for the amplitude of the quiet breathing curve, the amplitude of the phrase, the number of syllables contained in each phrase, and the average time taken in speaking the paragraph. Rates were figured out and the relative amount of breath expended by each subject in both speech and quiet breathing was computed. The deaf subjects were divided into groups A, B and C, according to their degree of hearing loss. Comparisons were made of the results found between these groups and then between these groups and the normal group. The speech of the deaf group showed the following abnormalities as compared with the normal group: (1) extremely slow and labored speech; (2) speech was accompanied by excessive expenditure of breath; (3) abnormalities of rhythm; (4) improper function of consonants with the consequent addition of extra syllables between abutting consonants; (5) measurements showed an equal amount of breath being expended by normal subjects both in speech and quiet breathing over a specified period of time; (6) the deaf expend relatively little more breath in speech than they do in quiet breathing over a given period of time; (7) the deaf expend relatively little more breath in speech than do normal subjects over a given period of time. For this reason it is essential that the speech of the deaf be speeded up so as to more closely approximate normal speech rapidity; (8) there was a high positive correlation between the degree of abnormalities and the degree of hearing loss. Subjects who became deaf after having learned to speak normally retained normal speech co-ordination. This indicates that speech movements are not dependent for their control upon the sounds produced by them. The muscular movements involved in speech by those children who had received residual training compared more closely to the normal than did those who received none. Many of

those had been unable to receive anything other than an appreciation of speech rhythm. This had been sufficient to cause their speech to approximate normal speech more closely in nearly all the points of abnormality that have been discussed. Speech rhythm should be taught the young deaf child from the time that he first enters school. The methods that are now used to teach the deaf to speak appear not to be sufficiently adequate to develop normal speech co-ordinations in the profoundly deaf. A clearer knowledge of normal speech co-ordinations, accompanied by a knowledge of the abnormalties to be found in the speech of the deaf, would be of great aid to any teacher who is interested in teaching the deaf child to talk.

Experiments in the Academic Education of Adolescent Deaf Pupils—III

By LOUISE EBELING DEAN, B.A.
Northwestern University

[Two previous reports, ANNALS, September 1934 (Vol. lxxix, no. 4), pp. 292-305, and March 1935 (Vol. lxxx, no. 2), pp. 160-171, gave details of methods of instruction adapted to the needs first of an individual pupil "A," as developed during the year 1932-1933, and then of the same work when that pupil was joined by another, "B," for the following year, 1933-1934. The second of the two foregoing reports considered mainly the instruction in arithmetic, project and art work.—*Editor,* ANNALS.]

SOCIAL SCIENCE

BECAUSE BOTH girls were in need of the same type of social science work and because this field requires explanation and illustration which can easily be given to more than one pupil at a time, it seemed desirable to put the study of Rugg's *Introduction to American Civilization* on a joint basis rather than on an individual one. "A," however, had already read eleven chapters and outlined three units in this book which was entirely new to "B." So it was decided that "A" should be given social science work of a supplementary nature while "B" studied the material which "A" had covered during the preceding year so that when "B" reached the point where "A" had stopped, both girls could go on together.

"B" therefore, was promptly started on Chapter I with the aid of the exercises made for "A" the year before—multiple choice, completion, matching and true-false questions to guide and check the reading. She experienced little difficulty with the first chapter and although she showed herself to be a slow worker—reading the chapter over and over and spending considerable time on the work-book exercises given her after she finished reading—there was no question about her comprehension. On Chapter II she was able, with some help, to do the arithmetic problems (long division and subtraction) which had been prepared to illustrate the proportion of the world's supply of various

commodities which the United States produced, but on the work-book exercises for Chapter III her lack of ability to read and follow directions was revealed as a great handicap and in her work on Chapter V (the population of the United States by immigration) her ignorance of European geography became apparent. These defects were pointed out to her to motivate improvement and were given special treatment in other ways but her work with the book was not interrupted.

After she finished reading Chapter V, she was taught the outlining process and although she required a little time to learn the form, she soon gave evidence of being able to select the important points and organize her material very well. As soon as her outline of Units I and II was completed, she started reading the power unit (III). "A" had been given a good deal of supplementary reading in connection with this unit but "B's" reading of it, while aided by the exercises and checked by the work-book, was supplemented only by explanations and board diagrams by the teacher. Her responses to both the prepared exercises and the work-book (when the questions and directions were read with understanding) showed satisfactory comprehension and in outlining this rather complex unit she experienced more difficulty with sentence structure and grammatical expressions than she did with organization of the material.

Early in March, having read and outlined Chapter XI, thus reaching the point where "A" had stopped, she was allowed several days to review her outline (most of the social science reading and outlining was done in the unsupervised study period) and was then given the test covering the eleven chapters. Her reaction to this test was complicated by her failure to read all the questions carefully and also showed some weakness in generalization, but as far as knowledge of facts and development of social science concepts were concerned, about 75 per cent of the questions were answered correctly and perception of the more important relationships was definitely revealed. The score was a little lower than that (82) which "A" had made on the same test but "B" had covered the material in three fourths the time,

with less outside material, less individual instruction, and much less help on the review.

Since in her social science of the previous year "A" had shown a pronounced interest in the physical science material which had occasionally entered in, and since her background in this field was extremely meager, her work for this year was started with a delightful little book by Reed called *And That's Why,* which explains in simple terms the nature and causes of clouds, rain, frost, thunder, lightning, and other weather conditions as well as the development of electric light and the origin of oil. She read this book with the aid of exercises similar to those made for the study of the social science text, seemed to understand it, enjoyed it immensely, and spontaneously perceived in her environment illustrations of the principles and phenomena other than those described in the book.

When she finished this book early in November, she transferred her attention from science to history. While she had started reading *A Child's History of the World* by Hillyer in the previous spring and had seemed to enjoy it, she had not really studied it and although she had had some work on the origin of the world and the life of cave men, ancient and European history—with the exception of a little Greek mythology—was quite unknown to her. Since some idea of world history was practically essential to an understanding of general social science as well as to a full appreciation of much of the juvenile literature in which she was beginning to show an interest, it was considered advisable for her to develop some background in that field; and as a rapid survey based on reading alone would give her little more than a vague and probably jumbled idea, it was decided that she should make an outline of history based on *A Child's History of the World.* This was undertaken during the second month of school and, once reminded of the form, she proved able to outline this material with comparative ease. Her chief difficulty was a tendency to include too many details but, although largely caused by the fact that it is easier to copy than to revise ideas and express them in concise, original sentences, this was partly due to the

condensed nature of the book. Since the greatest problem with this pupil was motivation, more would have been accomplished if it had been possible for her to do all this reading and outlining under supervision; but as it was she completed twenty-two chapters, from the beginning of the world to the fifth century B.C., by the end of the year and whereas the book relates events, disguised as stories, in chronological order—jumping from one country to another —her outline presented the important facts and relations stripped of the amusing titles and anecdotes and organized around the countries they tell about. During the last week of school she reviewed the outline and took a rather difficult test covering the material. Since her answers were 70 per cent correct and the greater proportion of errors were on facts and details rather than on fundamental concepts, her response was considered satisfactory.

From the middle of March to the end of the year both girls worked on Chapters XII and XIII of *An Introduction to American Civilization* and while "A" continued her outline of history "B" was introduced to the origin of the world and the early life of man. She did some reading in *Cave, Mound and Lake Dwellers,* some in *The World We Live In* (which proved too hard), and outlined the first chapter in *How the World Began.* A brief test on the beginnings of the world was given both girls and while "B's" score was 85, "A," who had not studied this material since the preceding year, made 75. About the same time each pupil was given an outline map of the United States and one of Europe and instructed to write in the names of the various states and countries. "B" did very well on Europe (93 per cent correct) but confused six pairs of states; whereas "A" made but one error on the United States but, becoming confused with the many lines on the map of Europe, could place only about half the countries.

The chapter in the text on the Industrial Revolution was long and important; so it was not only given considerable time and attention but was supplemented by two chapters in *The World We Live In.* The responses to the exercises showed in general a satisfactory comprehension on the part

of both girls and it was interesting to note that although their specific errors were different, their scores, based on per cent of responses correct, were exactly the same. "A," however, being out of practice in outlining this particular book had much more trouble with the outline than "B." Chapter XIII was started too late in the year to receive discussion and outlining but since it is introductory to a new unit, it will provide an excellent starting point for next year. In addition to further work in this book, continuation of the historical outlines is planned for both girls and since "B" is interested in drawing it may be possible for her to illustrate hers.

READING

At the time when school began, "A," having read *Little Women* and *Little Men* during the summer, had started *Jo's Boys*. This book is definitely more adult than the others in the series, for it has comparatively little action and includes a good deal of description, characterization, social conversation and moralization. Nevertheless, "A" was permitted to continue with it and after about three months she finally finished it. At the time the guided re-reading, the explanation, and the general struggle necessary to give her any real understanding seemed almost futile, but her occasional perception of the feeling of a situation, of the attitude of a character, or of subtle hints of future developments, her continued interest and the conviction that it was unwise to suggest that she give it up, encouraged persistence, and the marked improvement in her ability to read fiction which became apparent in the following months proved that this work had not been in vain.

During this first part of the year "B," also, was doing recreatory reading under supervision in school. Although her reading had tested lower than "A's," she apparently had much more fiction reading to her credit. Therefore the instructor, wishing to observe her continuity reading gave her Masefield's *Jim Davis* and had her report from time to time on the story. This revealed that she read for meaning, was able to follow the story, could understand most of the incidents, and noted many of the details but that her read-

ing was slow and she seemed to comprehend some parts much better than others. The same characteristics were apparent in her reactions to *Swiss Family Robinson* of which she read about one third, and *Jack and Jill* (Alcott), on which she made a written report.

Because "A" was struggling with *Jo's Boys* and "B's" reading technique was under observation and because both girls were doing exercises in connection with their social science which checked their comprehension and gave practice in careful, analytical and accurate reading, few pure reading exercises were given during the fall. The social science work, however, revealed that "B's" deficiency in reading questions and directions was a great liability and was probably due to her failure to appreciate sentence structure; while the one series of pure reading exercises which was given both pupils made this even more apparent and also showed that "B" needed practice in getting word meanings from context. The exercises mentioned consisted of several paragraphs telling a familiar story of which only the key words were given. Spaces were left for all the words which were omitted and the pupils were told to fill these in. Any word which made sense and fitted into the sentence structure was counted right. "A's" work on these was definitely better than "B's" although her errors tended to sacrifice sense to structure while the words "B" put in usually had some connection with the thought but were likely either to be the wrong part of speech or to conflict structurally with the other words in the sentence. Partly as a result of the response to these exercises, work on parts of speech and grammatical structure was begun with both pupils; "B" was given the exercise, made the year before and based on *Pioneers of America,* designed to give training in getting word meanings from context; and the importance of utilizing contextual cues both in form and meaning was emphasized.

The return to school after the Christmas vacation inaugurated a period of intensive work in reading. "A" read *Jim Davis* and although she had some trouble with the nautical terms and the historical background, she advanced

rapidly, attended well to the explanations and guidance she received, voluntarily read at home, and surprised the instructor by reading the last quarter of the book in one week-end and revealing unusual comprehension in her report. It is needless to say that she enjoyed this book but the pleasure she derived from the next, *Little Lord Fauntleroy,* was even greater. She not only understood all of the latter but she was able also to tell the story spontaneously, in detail, quoting conversation, and with an animation which greatly enlivened her speech. From this point on "A" appeared "launched" into fiction reading. She did all her subsequent recreatory reading, including *Secret Garden, A Little Princess, A Little Maid of Bunker Hill,* and *Polly Trotter, Patriot,* at home. The first two she reported in parts satisfactorily, the third she reported as a whole, and the last two were read in a much shorter time than she had ever before been known to read a book. She asked the instructor for a list of books for summer reading, as a result of which both girls were taken to the library where they looked over the books and listed from a suggested group those they wished to read, and she collected the titles of all the books "B" had read and found interesting.

"B," having demonstrated that she could, without help, read and understand stories, was after the beginning of February given no further fiction-reading in class, but was urged to do it at home, and was supplied with books—*Merrylips, Little Lord Fauntleroy, The Lucky Sixpence,* and part of the *Story of the Janes,* and was required to give a brief, verbal report on each after she finished it. She did a little reading in school on Darton's revision of Chaucer's *Canterbury Tales,* selected because of its connection with English literature and its potential value as an introduction to *Ivanhoe,* but she required so much help with it on account of her ignorance of the historical background that it proved too time consuming and was laid aside.

The chief emphasis at this time, however, was on reading to understand and follow directions, to comprehend explanations, and to perceive word relations accurately and observe their effect on meaning. Exercises of various types

were prepared for this purpose. Some described an event and gave directions for a diagram illustrating it; others included small pictures (cut from magazines) and gave simple instructions for marking certain parts, thus affording special practice in noting such words as under, over, on, near, etc.; others gave explanations followed by questions; some quoted a paragraph from a story, followed it by multiple choice questions, and added directions for marking in specific ways, words, phrases and sentences which told certain things; and one gave a description of a hockey field with directions for making a drawing of it and placing the players. The easier exercises in these groups, especially those involving pictures, were greatly enjoyed and the spirit of competition ran high. When the exercises were hard, pleasure was not so evident and help was often requested, but both girls seemed to work with a will and a reading test given in March indicated appreciable progress.

In connection with the close of the map project another type of exercise was introduced. The girls had been taught to use the index in the Book of Knowledge and "B" had been instructed to read about the various countries she was putting on her map. Partly as a check on this and partly for practice in reading, exercises in the form of short geographical puzzles, stating in four or five sentences certain outstanding features of the geography or history of a country and asking the name of the country, were given both girls. These seemed to be well liked and well suited to their purposes but "A" did better on them than "B" and as "B's" responses indicated that she was becoming confused by her reference reading, she was permitted to discontinue it. Shortly after this, however, "B" did some individual work in reading *Jatakas Tales* and parts of *A Child's Garden of Verses* and in doing exercises based on these which "A" had done the year before.

Since the village project included reading to follow directions, no exercises of the above types were made after work on the project was begun. But at this time a series of *Gates-Peardon Reading Exercises* for Grade V, together with two books of Type A exercises (Reading to Appreciate General

Significance) for Grade IV, were procured. Both girls were given work from time to time with the B group (To Predict Outcomes) and the C group (To Follow Directions) and some with the D group (To Note Details) in the Fifth Grade set. The C group proved very hard for them, however, and "A" developed an unfavorable attitude toward that kind of exercise, which may partially account for her poor showing on that kind of reading on the test.

Up to this time no work, other than one experiment with direction and paragraph flash cards, had been done with their speed of reading. Because both tended to skip or ignore many words, it had been thought best to approach this carefully although it was evident that they could and should read faster than they did. The Fifth Grade material was too hard for timed readings but as the A type for Grade IV seemed well suited, speed work with this was undertaken in the latter part of April. At first both girls read at the same time (silently), each doing five exercises in the book and the gross time for reading and marking the five was recorded for each pupil; but "B," in attempting to finish as quickly as "A," made such a high percentage of errors that after five trials the girls were taken individually and although they were allowed all the time they wanted to respond to the questions, the time required to read each exercise was recorded. This permitted calculation of the words read per minute as well as of the accuracy score and these statistics were posted on a card where both girls could observe their progress (or regress) from day to day. For a while "B" tended to improve steadily in both speed and accuracy whereas "A," although almost always better than "B," was erratic. But in the last few days of this work "A's" speed increased remarkably without at all impairing her accuracy and her attitude toward this type of drill improved also.

The reading tests given in the last week of school showed a number of interesting developments. These appear in Tables I and II. Whereas in March, "A's" reading of directions showed progress following the specially prepared exercises, in May it went back to its original status; but her

reading to follow a story (Type B) had gained three years in her two years' work, a large proportion of which gain had been made in the last two months. In other words, the test was reflecting the tremendous rise in her interest and understanding which had been so apparent in the latter part of this year. "B," on the other hand, had made her greatest gain—1.8 years—in reading to follow directions which had been her worst deficiency and upon which so much emphasis had been laid. On the average both girls had gained a full year as a result of the year's work, in contrast to three and one half years reading development in all their previous schooling. Furthermore, "A's" gains were greater in 1933-1934 than they had been in 1932-1933 which indicates a progressive improvement and is quite encouraging. The reading sections of the *Modern School Achievement Tests* which were given in addition to the *Gates Tests* gave "A" a score of Grade 6.0 Age 11; 10 on level of comprehension with Grade 5.3 Age 11; 1 on speed and accuracy, and "B," Grade 5.4 Age 11; 2 on level of comprehension with Grade 4.8 Age 10; 6 on speed and accuracy, and it is felt that if "A" can be made, through project work, to take an interest in reading to follow directions and if "B's" speed can be further increased considerable advance can be made next year.

Written Language and Grammar

This year, as last, very little pure composition was assigned. The outlining which both girls were doing provided extensive practice in word organization and sentence structure, selection of appropriate words, and even use of synonyms and antonyms. Furthermore, because the sentences in their outlines were always based on the books, they had constant contact with well phrased material and thus became accustomed to correct form. The errors which they made in this work gave the instructor opportunity to explain and demonstrate language structure, to lead them to correct their mistakes and devise better forms of expression, and to show how failure to relate words properly affected their reading as well as their language.

Aside from the outlines, each girl wrote one report related to other work and one direct composition. In the first week "A" wrote an acount of the exhibits she had seen at A Century of Progress which had reminded her of the things she had learned in social science during the previous year. The ideas and associations revealed in this paper were very interesting but the language included too many repetitions and too few subordinate clauses. "A" responded very well, however, to the instruction which she received in revising it and showed herself able with a little guidance and encouragement to organize and express her ideas in much better form. About a month later she was asked to write a description of some place where she had been. She did not know what a description was; so this was explained to her and she was given the first page of *Under the Lilacs* as an example. Her first attempt was little more than enumeration, but when asked to tell about the farm she was describing in such a way that the instructor could form a mental picture of it, she did much better. The meagerness of her vocabulary was evident in the frequent repetition of certain words and expressions, although when this repetition was pointed out to her, she was usually able to think of some variations which she could use. Comparatively little work (direct work) in vocabulary building was done in connection with the academic instruction, however, because it required a great deal of time and considerable emphasis was being placed upon it in the speech work.

Early in the year "B" was required to write a short autobiography. This, treating subject matter with which she was very familiar and upon which she had probably written before, turned out to be a distinctly well written paper with few structural errors except for the use of two many "ands." In the last part, where she named the various types of activity which she enjoyed, she was forced to depart from the purely narrative form and some of her difficulties with structure became apparent but the composition as a whole suggested greater ability than she really had.

Shortly after Christmas she wrote a book report on *Jack and Jill* which consisted of a long summary of the story

told, here and there in her own words but with certain sections taken almost verbatim from the book. In revising this the book was closed; "B" told the story to the instructor who wrote her words on the board; "B" was led to correct all errors in structure, and the corrected form was copied. This technique was similar to that used in revising the outlines.

In the correction work just described the instructor found it extremely difficult to explain sentence structure without using certain basic terms—subject, object, modify, etc.—and referring to fundamental grammatical principles. Neither girl, in spite of the fact that both had evidently studied the parts of speech, seemed to recognize the terms or know anything about the principles. Therefore it was decided that practice in learning and using these should be given them. This grammar work was started in November but little more than an introduction was given at that time and it was not until February that very much was done with it. Even during the spring it was seldom undertaken more often than once a week, for not only was it hard to find time but it was also felt that the principles it involved could be best mastered by a process of spaced repetition over a fairly long period.

Because diagraming sentences is a visual method of teaching grammar and involves a good deal of pupil activity, the first approach was made through this medium accompanied by definition and explanation of the necessary terms. The sentences used were, of course, very simple and at first "B" seemed to learn quite rapidly but it soon appeared that she forgot with equal rapidity and that her apparent ability to diagram sentences had been based not on understanding but on imitation of demonstration. Both girls knew nouns and verbs and had little difficulty in selecting the subject and verb in simple, common word arrangements; identification of prepositions was also easily accomplished; but comprehension of prepositional phrases and their use as modifiers proved difficult; while discrimination between adjectives and adverbs constituted a great problem. Personal pronouns were known and although some attention was

called to the other classes of pronouns, little work was done with them. In February the names, definitions and attributes of the various parts of speech together with certain emphasized principles were copied from the board and recopied into notebooks. After this completion type exercises on the nature and use of nouns, adverbs, adjectives, verbs, and prepositional phrases were given from time to time; instructions to mark in certain ways all the adjectives, adverbs and phrases, were worked into the reading exercises; and practice in diagraming and applying principles was offered.

It became apparent that little real understanding of application could be developed until certain rules were thoroughly learned; so more and more emphasis was laid on knowing which parts of speech an adjective modified, which

TABLE I

Reading Progress of Pupil "A" over a Period of Two School Years

*Type of Reading**	*Oct. 1932*		*May 1933*		*March 1934*		*May 1934*		*Total Gains*	
	Age	*Grade*	*Age*	*Grade*	*Age*	*Grade*	*Age*	*Grade*	*Age*	*Grade*
A.	9.4	3.7	10.8	5.0	10.8	5.0	12.0	6.0	2.6	2.3
B.	9.0	3.3	10.0	4.2	10.4	4.5	12.0	6.0	3.0	2.7
C.	10.0	4.2	9.8	4.0	10.4	4.5	10.0	4.2	0	0
D.	9.2	3.5	9.6	3.9	10.2	4.4	10.4	4.5	1.2	1.0
Averages	9.4	3.7	10.0	4.3	10.4	4.6	11.1	5.2	1.7	1.5

TABLE II

Reading Progress of Pupil "B" over a Period of One School Year

*Type of Reading**	*Oct. 1933*		*March 1934*		*May 1934*		*Total Gains*	
	Age	*Grade*	*Age*	*Grade*	*Age*	*Grade*	*Age*	*Grade*
A.	9.4	3.7	10.0	4.2	10.4	4.5	1.0	.8
B.	10.0	4.2	10.0	4.5	10.4	4.5	.4	.3
C.	8.6	3.0	9.5	3.8	10.4	4.5	1.8	1.5
D.	10.0	4.2	10.7	4.8	10.9	5.0	.9	.8
Averages	9.5	3.8	10.0	4.3	10.5	4.6	1.0	.8

* Reading types as measured by Gates Silent Reading Tests:
Type A.—Reading to Appreciate General Significance
Type B.—Reading to Predict the Outcome of Given Events
Type C.—Reading to Understand Precise Directions
Type D.—Reading to Note Details.

were modified by an adverb, and what types of information these words gave. Finally, as the year drew toward a close, the girls seemed to have at least memorized these principles. In the last test given, "B" answered correctly seventeen out of twenty questions on nouns, verbs, adjectives, adverbs, and prepositional phrases, while "A" answered sixteen. They have not yet fully learned to apply these principles but it is hoped that that may be accomplished next year. The girls seemed to enjoy correcting each other's diagrams on the blackboard but aside from that "A" exhibited a dislike for grammar and the instructor is planning to devise some games which will disguise it and make it more interesting.

Bibliography

Books Read, Studied or Used for Reference by One or Both Pupils

Literature

Alcott, Louise May, *Jo's Boys,* Little, Brown & Co., Boston, 1886, 1917
Jack and Jill
Under the Lilacs

Burnett, Frances Hogson, *Little Lord Fauntleroy,* Charles Scribner's Sons, New York, 1886, 1916
Secret Garden, Grosset, New York, 1911
Little Princess, 1925

Dix, Beulah, *Merrylips,* Macmillan, New York, 1906

Darton, *Chaucer's Canterbury Tales,* Frederick A. Stokes Co., New York, 1914

Humphrey, Grace, *Story of the Janes,* Pennsylvania Publishing Co., Philadelphia, 1928

Knipe, A.A., and E. B., *Lucky Sixpence,* Century, New York, 1920
Polly Trotter, Patriot, 1928

Masefield, John, *Jim Davis*

Singmaster, *Emmeline,* Houghton Mifflin, Boston, 1915

Wyss, *Swiss Family Robinson,* Macmillan, New York, 1925; London, 1907

Books Used With Reading Exercises

Babbitt, E. C., *Jatakas Tales,* Century, New York, 1912

Stevenson, R. L., *Child's Garden of Verses,* Charles Scribner's Sons, New York, 1905

Books Used in Social Science

Book of Knowledge—20 volumes—used for reference

Atlas

Hartman, Gertrude, *The World We Live In and How It Came to Be,* Macmillan, New York, 1931

Hagedorn, H., *Book of Courage,* J. C. Winston Co., Philadelphia, 1929
Heal, Edith, *How the World Began,* Thomas Rockwell, Chicago, 1930
Hillyer, V. M., *Child's History of the World,* Century, New York, 1924
Hillyer, V. M., and Huey, E. G., *Child's History of Art,* Century, New York, 1933
Holbrook, Florence, *Cave, Mound and Lake Dwellers,* D. C. Heath, Boston, 1911
Reed, William M., *And That's Why,* Harcourt Brace, New York, 1932
Rugg, H. O., An Introduction to American Civilization, Ginn & Co., Boston, 1929

BOOKS USED IN CONNECTION WITH ART AND PROJECT WORK

Book of Knowledge, Things to Make and Things to Do, Modeltown
Wello, Samuel, *Studio Handbook of Letter and Design,* Frederick J. Drake & Co., Chicago, 1927

California's Policy of Educating the Deaf

By ELWOOD A. STEVENSON, M.A.
Principal of the California School, Berkeley, California

THE CALIFORNIA PLAN: GENERAL POLICIES

IT IS WELL from time to time for educators in special fields to stop and to take inventory of efforts, policies, and of accomplishments in the everyday endeavor to meet the problem of the deaf child's future. The sending out of questionnaires may have its value but it never will begin to solve the problem. The selection of committees of supposedly leading authorities to list what they think are the criteria for the emancipation of the deaf will not suffice. Also, it becomes a sad state of affairs and a dangerous procedure when outsiders, without any vestige of knowledge of or experience with the problem, begin to advise what is paramount in the education of the deaf child and how such should be accomplished.

Action is the thing. Doing the things that are considered possible solutions is far better than blindly clinging to routine or to fetish methods regardless of the interests of the child. Any carefully planned attempt to better the status of the deaf child in his uphill fight for an education is commendable and should be tried regardless of set and fixed opinions of groups or bodies of educators. It is a matter of guaranteeing the mental growth and the future happiness of the deaf child rather than the objectives and personal satisfaction of normal adults.

As was stated in the beginning, it is constructive and beneficial to take inventory and to go on record in the official organ as to accomplishments achieved and attempts made in the interests of the education of the deaf.

In 1928 the State Department of Education in California formulated and initiated a far-reaching and most constructive policy in the matter of properly handling the general education of the deaf. Among several phases of this new

policy was that of establishing a state bureau for the deaf and the hard of hearing as part of the state department of special education and of making the head of the residential school at Berkeley the chief of this bureau. Under this plan it is so arranged that the chief has the responsibility of supervising all day-schools and special classes for the deaf, of counseling and advising with the heads and teachers as to school matters and placement of children, of giving information and advice to the city superintendents of the cities where such special classes are located, of passing upon special credentials of teachers of the deaf, of counseling in the care of the hard-of-hearing child and in the work with the hard-of-hearing adult, and of making annual reports to the state department of education concerning the status and progress of the work in general. Thus the work is concentrated and centralized as it should be.

Educators realize that there is a place and a need for both the day-school of a large metropolitan area and for the state residential school. The small special class for the deaf in the city school system will always labor under a severe handicap and will never be able to offer the full opportunity to the average deaf child.

At the present writing the California State School, as part of its new plan and policy, is experiencing an entirely new building program. Practically one third of the building outline is completed. Operations have been held up for the last two years because of the depression. When completed, the school will care for 500 pupils and will then institute a fifteen-year course of study. However, for many years the school has been crowded and yearly there is a waiting list of something like 75 applicants. Within the last six years the school population has increased 50 per cent. Because of this crowded situation, the residential school attempts to care for only those who are in the rural districts or in the smaller cities. Wherever possible, deaf children who live in cities where day-schools are located are advised to attend these day-schools. There is a complete and definite understanding to this effect. If carried out carefully and honestly this arrangement should prove satisfactory under the present cir-

cumstances. When children are found to be unsuitable for the type of instruction given at the day-schools and yet are found educable and capable of enlightenment, the authorities are to recommend transfers to the residential school at Berkeley. This is very important in the lives of these children and is one of the chief objectives of the new policy. The attempt to "dump" all the "culls" and possible "misfits" upon the residential school is to be avoided. The purpose is to study the child and to make the transfer before it is "educationally" too late. Inasmuch as the day-schools follow one system of instruction only and inasmuch as all deaf children, like hearing children, are not of the same mental and physical pattern, this policy of understanding and co-operation between day-school and residential school is the only sane and logical procedure that will insure fair and equal opportunity to all deaf children.

Part of the constructive policies inaugurated in 1928 and which can be rightly termed as the California Plan, and which by the way has been recognized in other states, if imitation or duplication of the same idea can be called recognition, is that of reorganizing and having a uniform grading of classes. This has been done in all the day-schools and the residential school wherever it has been possible. Likewise, all have a common course of study and in this way the grading, the transfers, and the understanding of the work done are made easier. This avoids considerable confusion and loss of time.

Accepted Grading

After careful study of the plan it seemed vitally necessary and absolutely essential to arrange the entire six grades over a period of ten years for children who enter school at five years. There was a thought in making the course consist of nine years, but after considerable study and careful planning, with the average deaf child's interest in mind, it was found that it is absolutely necessary to allow ten years for the five-year old deaf child to cover the required course. Internal arrangement and adjustment of suitable placement of the six-year old and seven-year old child can be made so as

to make allowance for age, intelligence, and number of years necessary to cover the required work as outlined:

Year	*Age*	*Grade in Residential School*			*Grade Division in Day-School*
First	5- 6	Kindergarten	(A)	(A)	Preschool preparation period
Second	6- 7	Beginning	(B)	(B)	
Third	7- 8	Transitional	(C)	(C)	
Fourth	8- 9	First Grade			B1-A1
Fifth	9-10	Second Grade			B2-A2
Sixth	10-11	Third Grade			B3-A3
Seventh	11-12	Fourth Grade			B4-A4
Eighth	12-13	Fifth Grade			B5-A5
Ninth	13-14	Sixth Grade		(A)	B6
Tenth	14-15	Sixth Grade		(B)	A6

The element of time and the proper placement of a deaf child in the school are of great importance. Because of the apparent weakness of the grading and dissimilarity of the work given in the various schools, it is a very common thing to have a month or so pass by before a new child from another school is properly placed in the school to which he is transferred. All school people realize this and many have attempted to remedy it. Here a policy has been established whereby transcript sheets, school record cards, and similarity in grading materially aid us in the quick placement of the transfers within the state. The difficulty still exists however with new pupils coming from other states. It will be a red letter day when all states can approximate uniform grading, similar content of course of study, and a common transcript form giving all necessary data. It should not be difficult to arrange and should be a matter demanding attention and solution.

Co-operation with Educational Authorities

The gradual understanding of the problem on the part of city superintendents and of the supervisors in the cities where there are day-schools is very encouraging. They possess information concerning the problems of the deaf and show an interest in the matter. This cannot be said of all city authorities throughout the country. The superintendent of the residential school in Berkeley is required to make three to four visits a year to each of the day-schools in the state. The usual procedure of one of the visits is as follows: Calls

upon the city superintendent in charge of special classes and discusses the problem and the education of the deaf child in general; discusses at the same time the problem of the hard-of-hearing child and the value of lip-reading and special coaching; discusses the immediate situation and progress of the day-school; visits the day-school classes, studies the work and the children, advises with the teachers and many times with the parents, and then discusses specific cases with the principal or supervising teacher. In this way intelligent interest is aroused and kept alive and a definite understanding to the benefit of the children is had among the schools. The status of the deaf child and his future would be far better were this same procedure followed in all states where there are numerous day-schools and a residential school. It can be strongly recommended to all interested in the true benefits to the deaf child.

Provision for the Hard of Hearing

The state department of education and its officials are keenly interested not only in the matter of the deaf child but also of the hard of hearing. The superintendent of the California School for the Deaf and the chief of the department of credentials have established an advisory board for the purpose of forming policies and procedure in the interests of the hard-of-hearing child and adult. This board is made up of two hard-of-hearing adults and two normal-hearing adults, all trained teachers of lip-reading and holders of a normal instructor's certificate. The chief of the state department of credentials and the head of the residential school are also members of this advisory board. They set up the requirements for teaching credentials in the field with the hard of hearing, formulate policies, counsel and advise in the organizing of classes, and endeavor to unify and standardize the work. It has been very constructive and helpful in the promotion of the work among the hard of hearing. California can boast of having more classes for the hard-of-hearing adult than any other state in the Union. In fact, more than one third of all the classes throughout the country are to be found in California. Close record and ac-

count of the classes, the teachers, the numbers of students, and of the progress are kept by this board. This procedure helps to focus and concentrate the efforts and interests and in this manner promotes the work to the greatest degree possible. The major part of the work has been with adults, although counseling with reference to the hard-of-hearing child has also been given. As soon as conditions become better, greater stress will be laid in the interests of the child who is sorely handicapped by defective hearing.

Training of Teachers

The work with the deaf is of a special and technical nature and demands the best in teaching. The background and the training of the teacher should be of the highest. In order to insure the engaging of properly trained teachers in California, the state department has designated the superintendent of the residential school as one to pass on all credentials of teachers of the deaf seeking positions in the state. A very strict set of requirements is set up and no special teaching credential is issued unless these requirements are met. From time to time such credentials must be renewed and in all cases each one is required to take from three to twelve units of university work in certain specified subjects. This makes for professional growth and further preparation. At present the state department accepts certification by the Conference of Executive of American Schools for the Deaf as a basis for a teaching credential.

Schools for the deaf have recognized the vital importance of securing well and thoroughly trained teachers. For years efforts have been made to afford the best possible training to all who desire to enter the field. With due consideration to the difficulty of teaching the deaf and the absolute requirement of actual experience in the classroom, it is felt that the qualifications of the applicants should be stronger than they have been in the past and that the training itself should be broader and more thorough. By emphasizing this phase of the work, the teaching, and consequently the opportunities, of the deaf child will be greatly improved.

With this in mind and having a training centre as a part

of the new policy, great care and thought were given to the proper course of training and it was agreed that all candidates for admission to the training class must possess the regular teaching credentials to teach the normal hearing child. To insure this policy and to give the training the proper emphasis and background, the state designated San Francisco State Teachers College to carry on this special undertaking.

At this time the training for teachers of the deaf is under the direction of San Francisco State Teachers College and is located at the California State School for the Deaf. The staff of instructors is made up of experienced instructors. Each one is recognized in his or her particular branch of the work. The training staff consists of five instructors thus making it possible to offer a very broad and thorough training and avoiding any set and prejudiced type of teaching. There can be no thorough and full training under one or two instructors. There can be no true and beneficial training from merely classroom observation and substitute teaching. The training must be carefully planned, it must be broad and varied, it must include class observation and supervised practice teaching, and it must take into consideration the value of association and contact with the deaf children in the hours outside the schoolroom. The course now established at the California School covers the above requirements and represents 38 units of work or 1,368 hours of work. Although it is not listed as part of the work or of the units of credit, the sign language and manual alphabet are taught the members of the class to be used as a means of communication. It is not listed purely because of the possible misunderstanding and misinterpretation by those in the profession who do not know the place and value of signs and finger spelling. When one knows that such are not used as a means of instruction, when one recognizes that signs are not a method, then one knows that there is no danger but actual help. Dr. Alexander Graham Bell and others never opposed the use of finger spelling and signs as means of communication or the knowledge of them by teachers. In fact every teacher should know them in order to know the deaf and in so doing become

a better teacher. Although such a plan has not as yet been established, it is felt that such preparation would be made stronger were it possible to hold the newly trained teachers as "internes" for the second year in the capacity of assistant teachers to those in charge of the first five or six primary grades. An outline of the course of training is here presented.

(1) *Introduction to the Teaching of the Deaf:*

The history of the education of the deaf. Kinds and organization of schools for the deaf. Extent and causes of deafness. Nomenclature —Typical theories and methods of instruction. Religious education —Vocational needs—Social and economic condition. The problem of the deaf as distinct from that of the hard of hearing.

(2) *Seminar in the Teaching of the Deaf:*

A seminar course to accompany scheduled classroom observation and supervisory association with the deaf. Problems arising out of such observation and association will be discussed. Current literature in the field will be reviewed and general problems will be considered. Special attention will be given to such matters as the social and economic problems of the deaf, problems of parent and teacher, moral and religious education, and new theories relative to education of the deaf. There will be a minimum of one hour a day observation and one hour supervision (2 hours) a day with two hour class meeting a week.

(3) *Language Development with the Deaf:*

Elementary vocabulary. Sentence structure and building methods. Material for language building. Study of grammar and comparison of current vehicles used in special language teaching. Special technique in the approach to use of language. Exhaustive study of common language difficulties and corrective measures. The value of reading and the comprehension of language as well as expression.

(4) *Speech Training for the Deaf:*

Vowel and consonant charts. Formation and development of elementary sounds. Diagrams of positions. International phonetics. A detailed study of the correct and the incorrect production of English sounds, with methods of correction. A study of the special difficulties which foreigners of different nationalities have in English pronunciation. The technique of speech. Anatomy and physiology of the vocal mechanism. Analysis of normal speech as regards its functional components. A study of the non-psychopathic deviations from the normal.

(5) *Lip-Reading:*

Study and analysis of methods of lip-reading with practice and material building. The course will apply to the teaching of the deaf and of the hard of hearing, both children and adults.

(6) *The Teaching of Elementary School Subjects:*

Emphasis placed upon Arithmetic and Reading. Study of the language difficulties of the deaf child in all subjects. Methods and materials in the various subjects. Special problems and devices. Outline of general course of study. Comparisons of courses of study. Program planning.

(7) *Mechanical Aids in Teaching the Deaf:*

Study of the anatomy of hearing. The structure and functions of hearing. Residual hearing methods of testing, classification and training. Emphasis upon the distinction between residual hearing and sound perception. Use and operation of radioear and audiometer as well as hearing aids for use of the hard of hearing. The place of musical rhythm in schools for the deaf.

Visual instruction. Fundamental reasons underlying the use of all types of visual materials such as exhibits, flat pictures, graphs, maps, stenographs, slides, stillfilms and motion pictures; sources of supply and special technique applied in teaching the various subjects of the curriculum; picture projection equipment and how to use it for auditorium and classroom instruction; administrative problems.

(8) *Hours of Supervised Teaching Daily:*

Daily classroom observation to acquaint the normal student with classroom procedure, technique and problems. Each normal student will visit all classes during the first eighteen weeks.

During the last eighteen weeks (second semester) each normal student will have one and one half hours of supervised teaching daily. Experience in the conduction of teaching in classes, with conferences in theory and practice.

(9) *Outside Activities:*

Very essential feature of the training. Personal and close contact with the deaf child outside the classroom while at play and at rest. Assignment of duties of supervision of the children on the playground, in the dormitories and in the dining room. All such activities carefully planned and under supervision. This phase of the training will consume on an average of ten hours a week or in all 360 hours of outside contact with the deaf child.

(10) *Assigned Reading:*

There is a special library made up of from 75 to 100 books on work with the deaf. Special reference material also made available for reading and study. There will be weekly assignments during the year.

(11) *Thesis:*

Each normal will write a thesis on an assigned topic.

(To be continued.)

School Items

I. S. F.

Baltimore Day-School.—A nursery class for deaf children from the ages of three to five has been started in the Baltimore Day-School. It is the first nursery class that has been opened as a part of the Baltimore public school system. The plan is to have some children with normal hearing enrolled also. Two teachers have been appointed to take charge of this class.

Central New York School.—Automatic sprinkler systems for fire protection have been installed in the boys' and girls' dormitories. Considerable repair work in all the buildings of the school has been carried out, at a total expenditure of $13,000.

Evangelical Lutheran Institute.—A new dormitory building for girls which will comfortably house 35 children, has been erected. This is the first in a series of units that will eventually comprise an entirely new institution. A similar building for boys, with a school and administrative office in between, and a chapel extending to the front, will complete the group.

Florida School.—A campus lighting system is being installed as a W.P.A. project. Another W.P.A. project started at the school farm involves the grubbing and clearing of land by a group of 27 men.

Approval has been received for the construction of the second unit of the girls' dormitory, and the contract for this building will soon be let.

Horace Mann School.—Miss Jennie M. Henderson, formerly assistant principal, was appointed principal of the school, to succeed the late Mabel Ellery Adams. Miss Katherine H. Shiels was appointed to the rank of assistant principal.

Kansas School.—The new dormitory and administration building, in process of construction, is practically completed.

Delays of many kinds in its completion compelled a late opening of school this year.

The State Board of Administration has adopted the rule that it will not permit married women to teach in the school.

The farm and dairy class organized a year ago has been progressing well. Several of the boys enrolled elected to remain at the school during the summer. The instruction includes milking, care of the milk, care for the cows and buildings, feeding and the keeping of proper records.

Lexington School.—Under the plan of reorganization effected this year for the three major residential schools of New York City, this school will continue all pupils through the eighth grade, unless they palpably will not be able to complete the course by eighteen or nineteen. In that case they will be transferred to the vocational department. Those who complete the work of the eighth grade will return after graduation for one or two years of intensive vocational training. Pupils over fourteen in the academic department will spend five sixths of their time in the academic department and one sixth in the vocational department. The vocational pupils, however, spend five sixths of their time in the vocational department and one sixth in a course called vocational adjustment. This course has been established to attempt better to prepare the deaf girl for the world she is to meet in a year or two. It is a comprehensive course dealing with related problems in arithmetic, language, speech, lipreading and social relationships. Such things as the ability to make an application for a position, correct attitudes toward the job, the employer, salaries, and the development of good work habits, are stressed.

Evening study hour was given up over a year ago, and in its place a strong program of evening activities has been developed. A study period is provided for the older pupils from 2:00 to 3:00 P.M. daily, during which time teachers carry on individual speech correction. All group speech activity has been given up with the older pupils.

All intermediate and primary classes have a half hour of acoustic training daily. Two selected groups from the ad-

vanced academic department and one from the vocational department have a forty-minute period of acoustic training daily.

Louisiana School.—Work was recently begun on a new primary building which will house and provide classrooms for the primary children. Application was made to W.P.A. for the labor necessary to construct this building, with the sponsor (this institution) furnishing the necessary materials. Federal funds for labor will amount to $45,688.34 and the sponsor's contribution will amount to $66,770.78.

Mackay Institution.—For many years past teaching at this school has been by oral and manual methods, according to the degree of receptivity of the pupil. Recently a decision was reached to attempt to make the teaching exclusively oral. This decision necessitated the withdrawal of a number of deaf "borderline mental pupils," and a corresponding reduction in the attendance at the school. Present attendance is 51.

Approximately $20,000 was spent in alteration of the classrooms, and the addition of new equipment, including dental equipment, hearing devices and additions to the equipment in the manual training and weaving departments.

Mississippi School.—An allocation of approximately $40,000 was made for general repairs to the buildings through a Federal-State project. Much interior painting was done, in the dormitories, dining hall, kitchen, corridors, office, and living rooms. The most important permanent improvement was the rebuilding of crumbling walls which had become a menace to the school. A new system of drainage has proved very satisfactory, as well as other outside improvements. The reconditioning of floors and the installation of new window shades and lighting fixtures add much to the general appearance of the school.

Nan C. Kennedy (Dayton) School.—The name of this school, formerly the Dayton (Ohio) Oral School for the Deaf, was changed last year to the Nan C. Kennedy School

for the Deaf and the Hard of Hearing, in memory of the late Miss Kennedy who was its principal for about 30 years.

New Jersey School.—For the first half of the school year, Dr. Harris Taylor, retired principal of the Lexington School, was associated with this school as director of speech work.

Among the approved W.P.A. projects is one to conduct a State-wide survey of the hearing of all the children in the public schools. A testing program has been initiated under the direction of Miss Ethel B. Warfield, field worker for the school.

New York School.—At the opening of the fall term in September, this school became a boys' school. All girl pupils, with the exception of two who are blind, were transferred to the Lexington School, and this school received in exchange a like number of boys. The New York State Department of Education has designated this school to give vocational training to older boys.

North Carolina School.—At a meeting of the board of directors of this school last May a new office was created, that of assistant superintendent, and the unanimous choice for the position was Dr. Carl E. Rankin. Dr. Rankin has had wide educational experience. He took his Bachelor's degree at Davidson College, his Master's degree at Columbia University and his doctorate's work at Columbia and the University of North Carolina. He has had teaching and administrative experience in both secondary schools and universities, and also spent a year doing research work along vocational lines.

Pennsylvania School.—So as to bring about a closer correlation of the work in the vocational and academic departments, and in line with the progressive movement in the vocational school, the instructors of the latter department are taking a course of academic training. Classes are held two mornings each week. Systematic observation will be arranged in representative classes in the different departments as the work progresses. In turn the teachers from the

academic departments will observe in the vocational school in order to become more familiar with the language needed in the learning of the various trades. It is hoped that an arrangement of this nature will help to solve the much debated problem of "shop language."

Ray School.—The Oral Class for the Deaf which for many years occupied space in the Kozminski School (Chicago) was recently transferred to the Ray Elementary Experimental School, one of the outstanding schools of the city and noted for its advanced practices in pedagogy. The same instructor, Miss Margaret V. McKee, continues in charge.

St. Francis Xavier School.—During the past year two members of this school's staff of instruction were transferred to St. Gabriel's School for the Deaf in Puerto Rico.

Territorial School (Honolulu).—Miss Beatrice Bockins, of this school's staff, has exchanged position for the year with Miss Ellen C. Bumgardner, School for the Deaf, Newark, N.J. By legislative act, any teacher in the Territory may exchange for a year with a Mainland teacher having equal training and experience. Each teacher is retained on the staff of her own board of public instruction and is paid by that agency each month the salary to which she is entitled. In this way teachers do not lose their local standing; retirement status, salary increases, and promotion possibilities are not affected. But the teacher does gain the inspiration and freshness of viewpoint secured from a year's work in a new environment.

The last legislature provided a sum in the school's biennial budget which is to be used to purchase hearing-aid equipment, to employ additional teachers to test children reported with defective hearing and to organize classes in lip-reading in the public schools for those requiring that additional help.

Miscellaneous

I. S. F.

The Conference Meeting at Pittsburgh.—The program for the Seventeenth Regular Meeting of the Conference of Executives of American Schools for the Deaf, at Pittsburgh, Pa., Tuesday evening, March 31, through Saturday morning, April 4, 1936, as announced in the January ANNALS, is being put into final form. The topics to be taken up concern matters of special importance to heads of schools, and the speakers who will deal with these topics are noted for their particular knowledge of them. Business matters of importance will also be considered.

Superintendent A. C. Manning of the Western Pennsylvania School, host to the gathering, is making every preparation for a memorable meeting. Every indication is that it will be a well attended and enthusiastic one. The Penn-Lincoln Hotel is to be headquarters for the meeting, and members of the Conference are urged to arrange for accommodations.

Certification.—The last report on certification of teachers by the Conference of Executives of American Schools for the Deaf appeared in the ANNALS for November 1935. To the list there given must be added the following names of new applicants. The total is now 548.

Sister Inez Mary Beckel, DePaul Institute
Cora Neyman Borrell, Western Pennsylvania School
Catherine Eulalia Brown, Louisiana School
Sister Marie Michael Carroll, DePaul Institute
Erma Clytele Coleman, Oregon School
Pauline B. Copeland, Tennessee School
Alan Benn Crammatte, Louisiana School
Florence Bridges Crammatte, Louisiana School
Ada Elizabeth Craven, American School
Edith May Craven, American School
Evelina Dunbar, American School

Betsy A. Finn, Rhode Island School
Sister M. Bridgetta Fitzpatrick, DePaul Institute
Anita Helene Foster, Oregon School
Sister Rose Xavier Garrity, DePaul Institute
Waldo Nichols Heber, American School
Lewellyn Lee Hennigan, Louisiana School
Lewellyn Shurley Hennigan, Louisiana School
Jerome Hicks, Louisiana School
Sister Mary Linus Hoag, DePaul Institute
Lionel John Holmes, Louisiana School
Helen Neal Jackson, Louisiana School
Lydia Babcock Kennedy, Rhode Island School
Henrietta C. Krantz, Territorial School, T.H.
Sister Teresa Mary Lacey, DePaul Institute
Emil Stephen Ladner, California School
Sister Elizabeth Ann Mahoney, DePaul Institute
Sister Teresa Vincent Mahoney, DePaul Institute
Sister M. Emmanuel Manning, DePaul Institute
Edith L. Matteson, Wisconsin School
Sister M. Florita McGrory, DePaul Institute
Sister Marie Antonia McLinden, DePaul Institute
Sister M. Ethelreda Merz, DePaul Institute
Martha Mae Mouton, Louisiana School
Sue Catherine Onstott, Louisiana School
Margaret Cecelia Rafferty, DePaul Institute
Sister Rose Gertrude Ritzert, DePaul Institute
Mary Scott Russel, Louisiana School
Mildred Parker Sturdevant, Montana School
Frederick Earl Swoyer, Louisiana School
Blanche Wilkinson, North Dakota School
Mildred Wilson, Louisiana School

The Drever and Collins Tests.—A second edition, revised, of the manual on "Performance Tests of Intelligence, a Series of Non-linguistic Tests for Deaf and Normal Children," by Drs. James Drever and Mary Collins, both of the University of Edinburgh, has just been published. These tests gained a good deal of prominence in Great Britain because of their use with deaf children. As previously noted in the ANNALS (November 1928, pp. 469-470, and March

1930, pp. 163-166), the original results, contrary to the findings of other investigators, revealed no significant retardation in an extensive comparison of hearing and deaf children. The tests originally were given to approximately 200 deaf children between the ages of four and a half and six, and to about the same number of hearing children. The revised edition of the manual reports on an extension of the tests to include 1,500 children, deaf and hearing, in different parts of England and Scotland, leading to two outstanding conclusions, namely:

> First, the confirmation of the finding (in the original text) as regards the insignificance of the difference between the hearing and the deaf; second, the revealing of a significant difference between the sexes, this increasing with increasing age.

Since no appreciable difference in intelligence between deaf and hearing subjects, as measured by the authors' performance test, was discovered, the manual does not distinguish between the results for the deaf and the hearing groups; in fact, it records no general norms at all.

With respect to the second of the findings, that there is a marked difference in performance between boys and girls, the authors note separate norms for the sexes, as follows:

MEDIANS AND QUARTILES FOR DIFFERENT AGES

Boys				Girls		
Q^3	*Median*	Q^1	*Age*	Q^3	*Median*	Q^1
117	102	91	15–16	105	95	79
113	99	86	14–15	99	89	72
108	95	79	13–14	95	83	67
102	89	73	12–13	90	76	62
95	81	66	11–12	84	71	56
86	71	58	10–11	76	64	48
76	63	50	9–10	65	54	40
67	52	40	8– 9	54	43	33
57	42	30	7– 8	44	36	27
48	33	21	6– 7	35	29	20
35	20	12	5– 6	27	18	14

Q^3 = highest quartile; Q^1 = lowest quartile.

The strength of the finding of Drs. Drever and Collins with regard to difference in intelligence between deaf boys and girls may be seen from a study of the above norms. It will be noted that in practically every instance the level for boys was higher than for girls. A single exception is to be found in the 5-6 year group, where the lowest quartile for

girls was a score of 14, whereas for the same group among the boys the corresponding norm was 12.

As in the original text of 1928, the revised manual reviews the uses of performance tests, especially with the deaf, and describes in detail the test material prepared by the authors, with explicit directions for applying and scoring it. The material combines a block design test (after Kohs), a cube test (devised by Knox), a domino test (new), a size and weight test (suggested by the cube test), a manikin and profile test (patterned after the same test in the Pintner-Paterson Performance Scale), a form-board test (using Pintner's Two-Figure Board and Healy's Puzzle A), cube construction (after Gaw), picture completion (Healy's Picture No. 1, and elaboration).

The standard test is named Series A. A secondary set, Series B, is a modification of the first and is intended for use with five-year-old children.

The book, containing 56 pages, is published by Oliver and Boyd of both Edinburgh and London.

Educational Abstracts.—The publication, *Educational Abstracts,* has made its long-awaited appearance with its first number, January-February, 1936. Edited by Norman J. Powell and a staff of distinguished associate and co-operating editors, this journal will give in each number a résumé of current material on education in books, periodicals, monographs and related literature from both American and foreign fields. The journal will thus be an invaluable reference work for the student of education, covering more than thirty separate headings, from Administration, Organization and Supervision to Vocational and Industrial Education. It will be published bi-monthly, omitting one issue during the summer. Subscription is $4.00 per year for the United States, and its editorial office is at 230 Fifth Avenue, New York City.

Of the two summaries appearing in this first number under the heading of Education of Exceptional Children, one (Abstract 78) is a review of an article on the Experimental Preschool Group of Clarke School by Mary A. Wagner, in the ANNALS for November 1935.

A Summer Session for Deaf Teachers.—The Board of Directors of the Columbia Institution for the Deaf has again authorized a summer school for deaf teachers to be held this coming summer at Gallaudet College, Washington, D.C., beginning about June 20, directly after the close of the Alumni Reunion. The course of study proposed will comprise in the main subjects of a practical classroom nature rather than of theory. The teaching of vocational classes will be especially stressed. The consummation of plans for this session is, however, contingent upon the number of deaf teachers who send in notice and fee for preliminary registration. The cost of the session will be $110, which will include tuition, board, laundry, and lodging for the entire period. Of this amount a registration fee of $5 should be sent in with the application for enrollment. It will be returned if not enough students enroll to warrant going on with the work. Each member of the summer school group will be expected to take not less than two and not more than three registered courses. By lengthening the recitation period it is hoped to give a full thirty hours of classroom work in each subject and close the session about the 20th of July. Satisfactory work done in this session will be given credit by the Committee on Certification of the Conference of Executives of American Schools for the Deaf. Inquiries in regard to the session should be addressed to Dr. Percival Hall, president, Gallaudet College, Washington, D.C.

Central Institute Summer Session.—An advanced summer course for teachers of the deaf and speech defective will this year be offered by the faculty of Central Institute, at Frankfort, Michigan. The prospectus of the work to be offered is quite similar to that of the summer school contemplated a year ago at the same place but which was withdrawn in co-operation with the American Association to Promote the Teaching of Speech to the Deaf. The latter body is now endorsing the course at Frankfort for 1936. The course also is given in affiliation with Washington University, St. Louis, and credits obtained may be transferred to any accredited university or college. Information may be had by writing to Dr. Helen F. Schick, registrar, 818 S. Kingshighway, St. Louis.

Summer Session at Ypsilanti, Mich.—The Department of Special Education of the Michigan State Normal College, at Ypsilanti, has announced a summer session at that institution June 29 to August 7, 1936, offering courses for teachers of the deaf and the hard of hearing, for teachers of children with speech defects, and for persons desiring to learn speech reading. The faculty will include, in addition to the staff of the department, Mr. Wallace J. Finch, principal in the Michigan School for the Deaf, who will give courses in the Elements of Speech, and the Teaching of Speech; Mr. Sherman K. Smith, voice scientist of New York City, and other instructors who have made special education their field. Tuition and other fees for residents of the state will be $12, and for residents outside Michigan they will be $16. Cost of room for the session need not exceed $12 to $18, board should be from $25 to $35, and total expenses should not exceed $55 to $85. Information may be obtained from C. M. Elliott, director of special education, Ypsilanti, Mich.

Report of the Treasurer of the Convention.—Mr. Odie W. Underhill, treasurer of the Convention of American Instructors of the Deaf, has submitted the following summarized report for his office, for the period February 2, 1934 (date of taking office) to January 25, 1936:

Fiscal Condition

Total receipts	$2,877.20
Total expenditures	2,111.97
Balance, January 25, 1936	$ 765.23

Membership

Total number of members, 1933-1934	345
Total number of members, 1934-1935	718
Total number of members, 1935-1936	767
Total number of members, secured since February 2, 1934	1,830

Of the 767 memberships for 1935-1936, 15 have been paid to continue to June 30, 1937.

Retirement of Mr. Nandurbarkar.—It was with a feeling of great sorrow that the gathering of pupils and the staff of the School for Deaf-Mutes, Ahmedabad, India, bade farewell to their retiring principal, Mr. P. R. Nandurbarkar, in the first week of January. He had been connected with

this school for eight years as an assistant master and then as principal since the death, in 1933, of the late principal and founder, Mr. P. L. Desai. Mr. Nandurbarkar had founded the School for the Deaf and the Blind at Baroda and had ably conducted it for nearly 15 years. He is one of the pioneers in the education of the deaf in Gujarat. The school will long feel the loss of his able guidance and wide experience.

THE BARRY FIVE-SLATE SYSTEM

One of the Best and Most Scientific Systems of Teaching Language to Deaf Children

PRICE $2.50 NET

Send Orders to

THE COLORADO SCHOOL FOR DEAF AND BLIND

COLORADO SPRINGS, COLORADO

WRIGHT ORAL SCHOOL

Established 1894. Coeducational, Resident and Day. Impaired hearing. Auricular Training, Lip Reading and Speech Work. Pre-School to College Entrance. A Correspondence Course is available for Mothers of Babies.

Books by JOHN DUTTON WRIGHT, founder:
The Little Deaf Child, $1.00 postpaid.
Handbook of Practical Auricular Training, 50 cents postpaid.
Speech Teaching (for teachers), $1.25 postpaid.

Address, M. E. WINSTON, 124 East End Avenue, New York City

Teachers' Training College
of
CENTRAL INSTITUTE for the DEAF
Affiliated with
WASHINGTON UNIVERSITY
Saint Louis
offers an
Advanced Course for Teachers of the Deaf and Speech Defectives
Given at
FRANKFORT, MICHIGAN
June 29 to August 1, 1936

COURSES OFFERED

(1) Fundamentals of Speech and Language; (2) Preschool Deaf
More advanced courses on request — JULIA M. CONNERY, *Principal*

Principles and Practice of the Acoustic Method:
MAX A. GOLDSTEIN, M.D., F.A.C.S., *Director*

Physics of Sound — A. S. HARRIS, PH.D., *Lecturer on Physics*

Speech Improvement in the Hard-of-Hearing:
FRANCES H. LESTER, B.S., *Lecturer on Lipreading*

Neuro-Anatomy — RAFAEL LORENTE DE NO, M.D.

(1) Fundamentals of Speech Teaching; (2) Congenital Aphasia:
MILDRED A. MCGINNIS, B.S., *Teacher-in-Charge Speech Correction Dept.*

Tests and Measurements of the Deaf and Speech Defective Child:
HELEN F. SCHICK, PH.D., *Psychologist*

This course was withdrawn in 1935 to co-operate with the American Association to Promote the Teaching of Speech to the Deaf, which in turn is endorsing the above course for 1936.

Two semester hours of credit for each course, with the exception of Physics of Sound and Neuro-anatomy, will be granted by Washington University to qualified participants who satisfactorily complete the courses elected. Physics of Sound and Neuro-anatomy will each be continued for a half of the summer session and will grant one semester hour of credit for each course. Each of the courses listed will meet six times per week for a one-hour session daily.

Students may elect courses not in excess of six semester hours credit. *Credits will be granted by University College of Washington University and can be transferred and applied toward credit at any university or college.*

A fee of $100.00 per participant will be charged. *This fee includes tuition for three courses elected by the applicant, a registration fee at Washington University, and board and lodging for the five weeks at Frankfort, Michigan.*

All applicants must have perfect hearing, speech, and sight.

Any teacher of the deaf or of speech defectives who has a total of two years of training and one year of teaching, or one year of training and two years of teaching in this field of special pedagogy, is eligible.

Frankfort is a small, attractive summer resort on the west coast of Michigan near Muskegon. It offers one of the best beaches on Lake Michigan with boating, bathing, golf, fishing and excellent woods for rambling and picnics. It is in the heart of Michigan's fruit belt with climate that cannot be surpassed.

All lectures and demonstrations will be presented in the Frankfort Public School, which has been placed at the disposal of our faculty during this period. Living arrangements for teachers attending the course will be made in the private homes of Frankfort residents.

REGISTER PROMPTLY. *Arrangements for board and lodging will be booked in order received and accommodations are limited.*

Address all communications to:

Helen F. Schick, Registrar

818 S. Kingshighway — **St. Louis, Mo.**

PUBLICATIONS BY
The National College of Teachers of the Deaf, England

1. INTELLIGIBLE SPEECH

A new Work on Speech Teaching by G. Sibley Haycock, F.E.I.S., L.C.P. 8½ x 5½, 54 pp. Price 1/-. Post Free.

2. THE TEACHING OF SPEECH

In 3 Sections

Section I. *The Braidwood Medal Prize Essay 1928.* pp. 73.
"How Best to Promote the Quality of Naturalness in the Speech of the Deaf."

Section II. *Speech Sounds.* pp. 175.
Their Classification, Production and Development. Common Faults and Their Correction.

Section III. *Intelligible Speech.* (As above). 54 pp.
How to Obtain and Maintain Intelligibility of Speech Throughout a School.

By G. Sibley Haycock, F.E.I.S., L.C.P. Author of *The Education of the Deaf in America; Early Education of the Deaf,* etc., etc.

Price 7/6 post free, 8½ x 5½, pp. 302.

From C. G. Goodwin, The Mount, Stoke-on-Trent, England

BOOKS FOR THE DEAF

By MARGARET J. STEVENSON

THE LIFE OF JESUS (Revised)
For Primary Classes. Cloth; Price, 30 cents net.

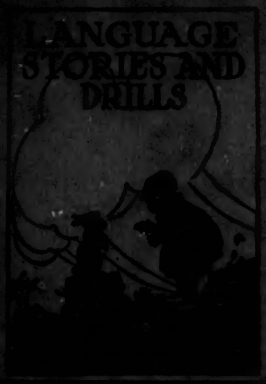
PRIMARY GEOGRAPHY, NUMBER I (Revised)
Cloth; Price, $1.00 net

PRIMARY GEOGRAPHY, NUMBER II
Cloth; Price, $1.00 net

NATURE FACTS (Revised)
Used correlatively with Primary Geographies.
Cloth; Price, 80 cents net

Send All Orders Direct To

MARGARET J. STEVENSON, OLATHE, KANSAS



"Language Stories and Drills"

Books I, II, III and IV

Gertrude W. Crosier, Mabel K. Jones and
M. Evelyn Pratt

Illustrated by Tony Sarg

Price per copy, $1.25

Teachers' Manuals, $.50 Postage
not included

Send orders to

CROSIER, JONES & PRATT
Public School 47, 225 East 23rd St.
New York City

MIAMI SCHOOL FOR DEAF CHILDREN

Specializing in Teaching Speech to the Totally Deaf from Three Years of Age by a Novel Method described by Dr. Max Meyer in his Book "FITTING INTO A SILENT WORLD,—The First Six Years of Life" published by the University of Missouri Press, April 1934 ($1.25)

Florida Climate—No Smoke—No Acid Air—No Dust—Same Temperature All Seasons—Outdoor Life—Best Medical Service—Open 52 Weeks of the Year—Entrance Any Day—Moderate Cost—Educational Supervision by Dr. Max Meyer

Address: MIAMI SCHOOL FOR DEAF CHILDREN,
The University of Miami, Coral Gables, Florida

"TALKS AND STORIES"

Contains nearly a hundred short stories and seventy-five conversations for practice in language, prepared by WILLIAM G. JENKINS, M. A. Single copy, 50c.

"WRITTEN EXERCISES ON DIRECT AND INDIRECT QUOTATIONS"

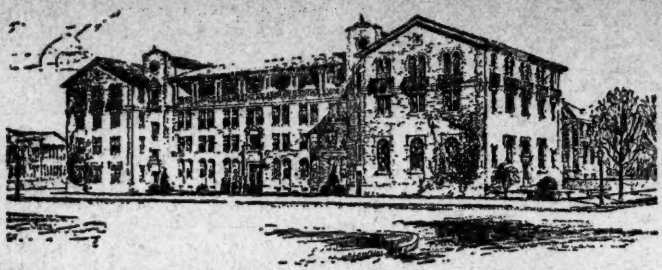
By J. EVELYN WILLOUGHBY, late instructor in the Clarke School. Single copy, 40c.

"THE STORY OF AMERICA FOR LITTLE AMERICANS"

By GRACE M. BARNES, Instructor in the Colorado School. New Edition. Price, single copy, $1.00

Published by the

AMERICAN SCHOOL FOR THE DEAF, West Hartford, Conn.



Central Institute for the Deaf

NATIONAL RESIDENTIAL AND DAY SCHOOL
FOR THE DEAF AND DEFECTIVES IN SPEECH

Approved by Advisory Council of Foremost Ear Specialists and Educators

New fire-proof buildings beautifully located opposite Forest Park. Modern Dormitories and Equipment. Best home environments. Pupils constantly in care of teachers or experienced supervisors.

Oral School for Deaf Children. C. I. D. offers all advantages of exclusively Speech Training and daily expert medical supervision of both Resident and Day Pupils. Education and Training from Kindergarten (three years of age) to College.

Classes for Hard-of-Hearing Children. A new department has been established for the special training of Hard-of-Hearing children in Lip-Reading and Speech; all grades. Salvaging of Residual Hearing is a specialty of the Institute. The Acoustic Method was created here.

Lip-Reading Instruction for Adults. Private and Class Instruction for the adult deaf. Conversational Classes for advanced pupils.

Correction of Speech Defects. Correction of Imperfect Phonation, Indistinct Articulation, Lisping, Stuttering, Stammering and Aphasias.

Teachers' College. This department of the Institute is a Unit of Washington University and accepts applicants with adequate college qualifications. Two years' training with graded special curriculum constitutes the training course. Graduates receive degrees of Bachelor of Science in Education from Washington University.

For further information address

Dr. Max A. Goldstein, Director - - - Miss Julia M. Connery, Principal

818 S. KINGSHIGHWAY, ST. LOUIS, MO.

BOOKS FOR USE IN SCHOOLS FOR THE DEAF

English Book I, for Upper Primary Grades	$ .60
English Book II, for Intermediate or Grammar Grades	.60
English Book III, for High-School Grades and a self-instructor	.75
Illustrated Reader, for Pupils of the Third and Fourth Grades	.60

The author of these books is J. W. Jones, late Superintendent.

Beginning History Stories for Children, by Lela Acker of the Kansas City, Missouri, School	$ .75
First Lessons in Geography, by Grace M. Beattie of the Colorado School	1.00
English Phrases and Idioms, by Dr. J. L. Smith of the Minnesota School	1.60

Published by the State School for the Deaf, Columbus, Ohio

OUTLINE OF LANGUAGE WORK

BOOK I, Revised

With Methods of Presentation of the Work of the First, Second, Third and Fourth Years.

Price per copy, $2.50

BOOK II

With Methods of Presentation of the Work of the Fifth and Sixth Years.
Price per copy, $2.50

Send orders to

EDITH M. BUELL
15 Prescott Avenue, Bronxville, N.Y.

GEORGE BANTA PUBLISHING COMPANY, MENASHA, WISCONSIN